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# CLINICAL MEDICINE

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## AIM HIGH!

BUT gauge the distance—
Scan the mark you'd hit,
Determining, before you loose
your bolt,
To strike the inner ring of it.

## AIM HIGH!

So may your shaft, even
With downward trend
And failing speed, make
"Center" at the end.

G. H. C.

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use.

Vol. 29, No. 8 August, 1922

# American Chemistry Menaced

THE United States entered the World War with no thought of territorial gains. Our active participation in the hostilities was a protest against world conquest by force of arms or otherwise, on the part of any one nation or group of nations. In the defense of this humanitarian ideal for justice and fair play, America contributed millions of dollars in money and hundreds of thousands of human lives. Victory meant no huge reparations nor indemnities for the United States. In the division of the "spoils of war", we had no share.

One of the few compensations which this country received from the gigantic struggle was, a more or less definite assurance of security through the welcome discovery that our people might be able to depend upon themselves, in the future, for the production of many indispensables previously obtained only from Germany. Among the most important of these necessities, were dyes for our industries and medicinal chemicals for the sick. Necessity was the mother of invention and the father of research. Before the war, the United States was at the mercy of the German chemical trust. The great "I. G.", backed by the German government and operated under the German cartel system, had a strangle hold on the chemical industry of the United States, if not upon the entire world. Our industries and the medical profession were completely dominated by, and absolutely dependent upon Germany for dyes and certain medicinal chemicals.

Through a system of espionage, trickery, dumping and political propaganda, Germany held this country in a vise-like grip of subservience. To this monopoly, the American people meekly acquiesced and paid tribute in the form of exorbitant prices. Through subtle propaganda, the medical profession was led to concur in the belief that the best in medicinal chemicals must, of necessity, come out of Germany, and that American chemists would never be able to match brains with the marvelous minds of scientific Germany.

Soon after the great war opened, in 1914, the blockade brought us to a realization that we must either develop our own organic chemical industry or be deprived of dyes and important drugs. The agent, in this country for the German chemical interests, had a monopoly in the sale of "Salvarsan" imported from abroad before the war. The profits on this drug alone, to say nothing of German dyes, are reported to have been over a million dollars.

When Salvarsan was no longer obtainable in this country, after the last German submarine had brought its cargo, thousands of sufferers from syphilis were deprived of treatment. The medical profession was unable to secure Salvarsan. The patent rights in this country were controlled by the Germans, but no one in the United States knew how to make this drug.

To meet this emergency, the Dermatological Research Institute, of Philadelphia, affiliated with the University of Pennsylvania, was enabled, by private contributions, to undertake the research work which ultimately led to the first arsphenamine being produced in this country. To Doctor Schamberg, Doctor Raiziss, Doctor Kolmer, and others connected with the D. R. I., the medical profession owes a debt of gratitude. In the face of threats and active opposition by German interests, they were able to produce, in quantity and quality, a product equal to any ever made in Europe. They were able, also, to reduce the price to physicians materially over the exorbitant price of the German-made product, and still have several hundred thousand dollars in profits, which was turned over as an endowment fund to the University of Pennsylvania for further research work. In this laudable achievement, the Dermatological Research Institute was aided by The Chemical Foundation, the existence of which is now menaced by the insidious influence of German interests cleverly guided through political channels. It is against this menace we now warn the medical profession.

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*The Chemical Foundation.*—In order that every physician should have a knowledge of the facts, it is well to relate why The Chemical Foundation was incorporated, and its purpose. It has been explained how Germany was obtaining control of the pharmaceutical industry as well as the dye industry of the world. Most of the great discoveries in chemical medicine came directly from the dye laboratories of Germany. The control of medicinal chemicals by one country might become, in time of war, as powerful a weapon as explosives or poisonous gas in the conscienceless conquest of the world.

This was the situation in 1914. Germany had misused our patent system, just as she has misused and violated our Sherman Law, our antidumping laws, our antibribery acts, our business code, and our common code of honesty. She had taken out patents for all her developments covering, in many instances, not only the processes to prevent manufacture here, but, also, the products, to prevent our taking advantage of any possible development in the dye industry of other countries. Now, 4,500 of these patents, which applied to chemistry, were sold for the benefit of American industries by Mr. A. Mitchell Palmer, former United States Attorney General and former Alien-Property Custodian, to a corporation called The Chemical Foundation. This Foundation was organized to encourage the chemical industry of America, and not for profit. It was authorized to issue licenses to any competent, equipped and patriotic American individual, firm or corporation, on such of these patents as, with the help and encouragement of The Foundation, might be utilized in the promotion of American industry and for the use of the medical profession.

It is unthinkable that, right now, there are men in Washington, elected to high office by the votes of American citizens, executives who are pledged to represent American interests, but who are endeavoring to destroy the usefulness of The Chemical Foundation. If all patents were to be returned to the Germans, there would be wiped out, in a single executive order, the only fruits of victory which this country now enjoys. Since The Chemical Foundation has been operating, it has issued licenses to manufacture many important medicinal chemicals which heretofore had never been made in the United States. Among these products, familiar to the medical profession, are Arsphenamine and Neo-arsphenamine, the American names for Salvarsan and Neo-Salvarsan; Cinchophen, known in Germany as Atophan; Procaine, introduced as Novocaine; Acriflavine; and Neo-cinchophen. Not one of these medicinal chemicals was made in the United States before the war. American firms, under license from The Chemical Foundation and encouraged by that patriotic organization, have invested large sums in developing and producing these valuable drugs. Not only has The Chemical Foundation been interested in the success of American endeavor along these lines, but so also has the Council on Pharmacy and Chemistry of the American Medical Association. This body, which includes the leaders in medical, therapeutic and chemical progress in this country, has repeatedly urged the medical profession to use, and specify by American names, the products made in this country under license from The Chemical Foundation. All surplus funds, above 6% of the capital actually invested, accruing to The Foundation through license fees paid by manufacturers, were to be expended by The Foundation for the develop-

ment of research and the encouragement of the Chemical industry of the country.

The stock has been underwritten by 150 American producers who are interested in the future of the American dye and chemical industry, and who were assured that this infant industry would receive the encouragement and protection of the United States Government, through The Chemical Foundation which it fostered.

The executives of The Chemical Foundation serve with enthusiasm and without pay. Its President, Mr. Francis P. Garvan, former Alien-Property Custodian, is a man of high ideals, of clear foresight, and is actuated only by patriotic motives. Under his direction and with the assistance of a devoted staff of associates, The Chemical Foundation has accomplished much for the advancement of the chemical industry in this country. It has brought about a closer union of the university and the factory; it has conducted surveys of the facilities in our universities for chemical research; it has brought about a standardization of chemical stains for research work; it has contributed twenty-five thousand dollars for the publication of research work done by the American Chemical Society; it has protected and guarded our growing chemical independence, and labored for the advancement of medical science and research.

The establishment of The Chemical Foundation is one of our greatest achievements of the World War. Its perpetuation will compensate, in a measure, those countless millions of American citizens who fought at home and on the field of battle to defend our flag and our rights to freedom from foreign domination.

Notwithstanding the high patriotic ideals which have actuated the work of The Chemical Foundation and its friends, it is almost unbelievable to read, in our daily press, the attacks made upon its legality and right to existence and perpetuity.

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*The Secret Moving Power.*—The German leaders, themselves, have feared to come out in the open and fight The Chemical Foundation. The representatives of the German Chemical Trust, who recently came to this country to rehabilitate, if possible, the fortunes of the famous "I. G.", acknowledge the legality of the sale of German patents to The Chemical Foundation. They have shown no eagerness to lock horns in an open fight, nor to leave the matter to either a fair-minded jury, or to American public opinion. They have preferred to act upon the insidious suggestion that political aid might be enlisted through the influence of those close to Washington affairs.

A German delegation recently arrived in this country to look over the ground and to suggest ways and means of again shackling the American dye and chemical industry. Almost immediately following this now famous conference of German interests, an executive order was issued by President Harding ordering, on the advice of the Attorney General, the immediate return of all German patents, by The Chemical Foundation, to the Alien-Property Custodian. Not satisfied with this executive order, the Attorney General instituted a criminal suit against Mr. Garvan, President of The Chemical Foundation, with subpœna for his appearance, with all books and records of The Foundation, before the Grand Jury.

This action, if not contested, might ultimately lead to the return of all German patents to the Germans and a serious setback to our infant American chemical industry. It can only be surmised who, in Washington, is responsible for this outrageous attack, not only upon The Chemical Foundation but upon the rights and privileges of the American people. It is apparent that President Harding has been misled in the issuance of an executive order so foreign in its import to righteousness and fair play. President Harding, it is believed, was not familiar with the real purpose and accomplishment of The Chemical Foundation, when he issued such an un-American manifesto. It is intimated that the President's political advisers have in mind "a million German votes" in this country; but, surely, no one with a conscience would wreck our growing chemical industry in this country for the sake of political patronage! Even were this the case, the votes of ten million indignant American citizens would be registered as a protest against such action, and offset, ten times over, any temporary political advantage which might be gained by so short-sighted a policy. It is believed however that it is the President's desire and intention to protect American industries.

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*The Problem.*—The question is, "Have we won the war" if we now sacrifice the only benefit which we enjoyed for a time? Can the Germans return to us the Lusitania with its cargo of human lives? Can the gold-star mothers be satisfied that their sacrifice was not in vain if the Germans are again successful in the commercial domination of this country? A bonus to the legions who fought in the war will not

suffice to cover the crime of handing back to the Germans a monopoly on the medicinal preparations needed by untold millions of sufferers in this and future generations. Will the American people stand idly by and let themselves be sold out in this way? Will the medical profession again pay $3.50 a dose for Arsphenamine when it can be produced in this country, in equal quality, for much less money? Before Arsphenamine was made in this country, the German product brought as high as eighty dollars a dose during the war. It was available only for the rich, and millions of poor sufferers were deprived of this drug.

This emergency calls for action. It is as clear a duty to enter a protest now, as it was in time of war to enlist or to buy liberty bonds. If your senator or congressman does not stand up and fight for an American chemical industry, he is either misinformed or he does not deserve the support of American citizens.

Write or wire them at once and find out where they stand. Neither Mr. Garvan, nor The Chemical Foundation, nor any American chemist is going to submit to this indignity without a fight which will be carried to the Supreme Court of the United States, and even beyond it to the American people themselves. Morals are involved here, as well as fine points of the law, and it is your privilege and duty to let your senators and congressmen know where you stand.

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**The world is too wise to be foolish—so they say. Or is it too foolish to be wise?—Ouida.**

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## PROTECT AMERICAN INDUSTRIES

Three large American manufacturing concerns, namely, Ford, Yale Lock and American Woolen Mills, have begun operating plants in Germany. What does it mean? Merely that we cannot compete in this country with Germany in the face of the depreciation of the mark from 24 cents to about 1/5 of a cent, and with labor there being paid one-tenth of the American laborer's wage. It means, furthermore, that, for every man employed by such a plant abroad, an American is unemployed. This is the situation confronting us, with prospects of getting worse rather than better.

The whole question hinges on the much discussed (and "cussed") tariff bill now pending before Congress. It provides for an *ad valorem* duty to be assessed, not on the unsettled values based on foreign currency, but on the American value of the article. This, in brief, constitutes "American valuation." It is a departure from the usual methods of tariff assessment, but it is a necessary innovation. With foreign values fluctuating sharply and continually, *ad valorem* rates of duty based on them set a premium on cheap labor, and any duty levied to afford protection against imports from Germany will be prohibitive to any importation from England or France, where the wages and rates of exchange are more like those of America.

The opposition to the American Valuation plan comes almost entirely from importers who have but few employes, and from retailers, who prefer to buy cheap foreign goods because their margin of profit is many times greater than on American goods. These cheap prices paid by them are not passed on to the consumer. Go to any store handling both American and foreign goods, and you will almost invariably find the imported article (which cost much less than the American product) being sold for a higher price. The clerk will tell you, "We must charge more for these, because they had to be shipped from abroad"; yet, the retailer is making many times the profit on the imported article, and the consumer suffers from the higher prices.

Hence, the argument, so often advanced, that American Valuation will cause higher prices and more unemployment, is manifestly false. The retailer depends for his sales upon the American, not the foreign, wage earner. If the worker is out of employment, he cannot buy, but, if he is employed in the manufacture of American products, he can afford to buy American articles. Industries cannot operate if there is no market for their goods, and their lack of operation means curtailment of the buying power of both, employer and employe.

The physician is vitally interested in this matter, both as a citizen and as a professional man. In his own field, he well knows that, before the war, he paid several times the present American prices for foreign medicinal products; and, statements to the contrary notwithstanding, they were in general not of as high quality as are the American products today. At the present time, German attempts are being made to bring in medicinal chemicals at ridiculously low prices, even below the cost of the American manufacturers' raw materials. This desperate effort to regain the throttle hold on our markets will, if successful, mean only that, when competition has been crushed, prices on foreign goods will again soar to their old levels, and far above the present American prices.

Our general interest lies in the American worker, be he a business man or a day laborer,

and he can be assured of a livelihood only by adequate protection during this critical period.

**Faithfulness and constancy mean something besides doing what is easiest and pleasantest to ourselves.—George Eliot.**

## FOR A NATIONAL HEALTH WEEK

A program that may usefully be carried out preceding and during the National Health Week, which we hope will be held in the not distant future, is suggested in another connection by Dr. C. E. Humiston in his presidential address delivered to the Illinois State Medical Society and referred to in another editorial in this issue. Doctor Humiston says:

"This Society should have a lecture bureau on the general plan of university extension work, and perhaps in cooperation with the State University, whereby the members of our profession would be available for lectures and addresses to lay or mixed audiences on topics of common interest to the medical profession and the public. A joint committee from this Society and the University could safely be trusted to guide this work along safe lines.


"If the medical profession does not wish to submerge, it must emerge. Its traditional seclusion must be abandoned. The times demand that the profession come forth to battle with the sinister forces of the medical underworld. The battle is for the health and lives of our fellow men, and is a challenge which, in the name of humanity, the medical profession can not refuse to accept.

"Our call to arms is the human cry of distress. Outstretched to us are now the despairing hands of helpless little children, the tragic victims of ignorance, of superstition, and of the sordid greed of quackery.

"The mute appeal of a home, in which is only silence where was once the music of childish laughter, is more compelling to the true physician than is the bugle call to the soldier at the front. The public may not now appreciate our efforts in its behalf, but, if we do our full duty now, some time, some day, it will."

## FOR A NATIONAL HEALTH WEEK

The Secretary of the National Committee on Exhibits, showing advances in sanitary science, announces recent formation of this committee in Washington, D. C. Its purpose is, to collect and prepare material for a great popular health exhibit in the Capital. The members of the committee include:

Surgeon General H. S. Cumming, U. S. Public Health Service, Chairman.

Dr. D. B. Armstrong, National Health Council.

Miss Mabel T. Boardman, American Red Cross.

Surgeon General M. W. Ireland, U. S. Army Medical Corps.

Dr. Victor C. Vaughan, National Research Council.

Dr. C. D. Walcott, Smithsonian Institution.

James A. Tobey, National Health Council, Secretary.

Space for the proposed exhibit has been placed at the disposal of the Committee by the Smithsonian Institution, which is visited by more than half a million persons annually. Plans are under way to install exhibit material secured from official and voluntary health agencies. The secretary's office is the national headquarters of the American Red Cross at Washington, D. C.

This movement is a very excellent one and will serve to instruct and enlighten the lay public as to the progress in sanitary science, which, of course, is based upon the efforts of the medical and associated professions.

At the time that this issue of CLINICAL MEDICINE reaches its readers, the big Health Exhibit in Chicago will have passed into history. It was another undertaking showing what can be done for the preservation of health.

It is very important that physicians should keep in mind the necessity of instructing not only their patients but also their friends and associates concerning the work that has been and is being accomplished by physicians and by

all those on whom physicians depend more or less for the carrying on of their work. The healing agencies include, of course, dentists, nurses, pharmacists, manufacturing chemists—in short, these agencies comprise several professions whose members devote their lives to the betterment of the people's health, to the curing of existing disease and, more important still, to the prevention of ill health. It is time that the public should understand the great work that has been accomplished by physicians and others. It is time that the idle and untruthful boasts of irregular practitioners of healing should be counteracted, that the untruths disseminated by their adherents should be nailed.

CLINICAL MEDICINE has set itself the task of stimulating missionary work along these lines. Already, other agencies, associations, individuals are keenly interested in the movement.

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**To talk about charity beginning at home is only another way of letting people know that we are stingy. —Modern Society.**

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## THE PROBLEM OF THE MEDICAL PARASITE

In his presidential address, delivered at the 72nd annual meeting of the Illniois State Medical Society, at Chicago, May 18, 1922, Dr. C. E. Humiston (*Ill. Med. Jour.*, June) refers to Supreme Court decisions to the effect that "the practice of medicine is a general term which includes everything that any system of treating real or imaginary human ailments may lay claim to. It follows that there is no justification for the use of any other name for the healing art. Such of the special forms of treatment as have rightful claim to some degree of success in curing disease have no rightful claim to any distinctive name."

This disposes effectively of the claims for legal recognition put forward with considerable boldness and even arrogance on the part of various irregular cults and drugless sects. The most insistent school of drugless healing which, at the present time, spends enormous sums of money in an advertising campaign implies (in addition to its demands that it be recognized) that its alleged treatments "by adjustment" are its own property and that nobody else is entitled to employ the method. Similar things are suggested by other irregular practitioners and schools.

The absurdity of such opinions is self-evident, it being a matter of course that any method, any procedure, any means through which the sick person may be benefited is the legitimate property of graduate physicians, regularly accredited representatives of the medical profession.

Unfortunately, certain methods of treatment that are not generally or universally employed have been, in the past (and still are being) discussed adversely and their adoption has brought discredit upon the physicians who wish to utilize them.

We need refer only to the "Rambling Recollections" by Dr. A. D. Rockwell (New York: Paul B. Hoeber, 1920), who, it will be remembered, was largely instrumental in establishing electrotherapeutics as a "respectable" specialty. Doctor Rockwell relates that, in the early days of his practice, when he had become interested in the therapeutic application of electricity, "the whole subject was a veritable *terra incognita*, and to touch it was to imperil one's professional reputation." He was desirous of securing the moral support of men of character and standing in the profession. However, one of the most eminent surgeons of the time, Dr. Willard Parker, said to him: "It isn't worth your while—any old woman can apply electricity", while Dr. Austin Flint, Sr., refused to lend his name to any such project and advised Dr. Rockwell "to keep on in the regular path" and not to meddle with it (viz., electricity), but "let it remain where it belonged—in the keeping of the charlatans."

The opposition on the part of the regular medical profession to the teachings of Hahnemann is well known to all of us and, yet, we utilize freely the principles of the law of similars in our biologic methods of treatment. The power of mind over matter and the essential character of psychologic treatment has been utilized for centuries more or less consciously by physicians. Yet, it required the stimulus of several outside cults, or sects, to make us realize more fully the importance of this healing factor. The danger was great, at first, that, like other important means, it be discarded because of its adoption by outsiders and because of the odium attaching to it, in consequence. We are altogether too prone to deprive ourselves of valuable means that we might employ for the benefit of our patients and that we cast aside, for the simple reason that irregulars, outsiders, charlatans have utilized them. This is true not only of electricity but it is true of hydropathic treatment, balneology and virtually all other methods of physiotherapy and mechanotherapy.

Here, we believe, there is one fruitful cause

for th measure of success that charlatans record and, no less, a cause for many failures that are to be charged to regular medicine. We are so afraid to be unethical that we refuse to employ methods that have been popularized by charlatans. In this way, we fortify them and give them countenance while, if we claimed and used (as we justly may) all measures, methods, means that may help us to treat real or imaginary human ailments, we could ourselves repeat, and improve upon, the successes of "those others."

We are reminded of a remark attributed to the late General Booth of the Salvation Army, who is said to have refused to let the devil have all the fine and inspiring melodies and whose songbook contained a great many decidedly secular tunes to which religious words had been adopted. Here, as elsewhere, the Paulinian injunction holds good: "Prove all things, hold fast to that which is good."

## THE MEDICAL PARASITE AGAIN

In the presidential address referred to in the preceding editorial, Dr. C. E. Humiston referred to various exemptions that have been demanded, insisted upon and, in part, procured in various states of the Union by irregular practitioners. These people claim that they are not subject to the medical-practice acts that are enforced in the case of those who have complied with the conditions laid down for licensure to practice medicine. They demand preferential treatment over the graduates of medical schools who have spent many years and large sums of money in order to fit themselves to enter the healing profession.

These irregulars who demand admission through a side door, who expect special favors, although they are poorly equipped for the work that they pretend to do, may generally be classed as charlatans.

Doctor Humiston presents a sample list of such exemptions including the following:

1. Persons recommending by advertisement, or otherwise, proprietary remedies sold under trade-marks.
2. Chiropodists.
3. Clairvoyants.
4. Persons who practice—
   (a) Massage,
   (b) Swedish movement cure,
   (c) Sun cure,
   (d) Mind cure,
   (e) Magnetic healing,
   (f) Christian science.
5. Persons who do not prescribe drugs, poisons, medicines, or nostrums.

All these persons pretend or claim to practice medicine. They offer their services (by means not countenanced by regular physicians) to the ailing and ill and they insistently and blatantly promise greater results than they can produce. It is small wonder then that honest physicians frequently can not cope with these unfair competitors and with their dishonest methods.

In the legal profession, shyster lawyers who have been found guilty of illegal, shabby and dishonest practices are disbarred. Candidates for license to practice law are not admitted to the Bar unless they can show sufficient educational qualifications. If any irregular practitioners should demand such admission after having taken special or partial courses for a period of a month or two, the legal profession would object vociferously and effectively. Yet, it is frequently the legal gentlemen in legislatures who aid and abet irregular medical practitioners in their desire to procure the privileges of a profession in which they are not willing to assume the duties.

There are numerous points in relation to medical parasites that might be discussed to advantage and some of which have been considered by Doctor Humiston. He offers as a perfect solution to the problem, first, the education of the parasite himself: "The application of the educational prerequisites of regular medicine to all who aspire to practice the healing art will not interfere with any form of treatment that has merit, but the profiteering parasite would disappear.

"The education of the public is of the highest importance as a permanent safeguard. A law which provides that all candidates for licensure to treat the sick must come armed with reasonable educational qualifications may, any day, be wiped out by a court decision on some legal technicality. An educated and discriminating public will at once demand a better law.

"Something akin to this happened when the law of 1917 was declared void. The parasites who secured the destruction of the law that had stood between them and the public's cash, found themselves face to face with the law of 1899, which provided a penalty of $100 instead of the $25 named in the law of 1917, 'Verily, little Peterkin, 'twas a famous victory.'"

Doctor Humiston concludes from his experiences as president of the Illinois State Medical Society that the public is anxious to take part in an educational movement such as he suggests.

## SIGNS OF THE TIMES

A newspaper clipping, evidently from a British paper, announces that, on the occasion of

King George's birthday, Mr. H. A. E. Barker, "the foremost specialist in manipulative surgery", was honored with a knighthood.

The knighthood given to Mr. Barker in the honor list, we are informed, is a recognition of the value of his work which has been refused him by the orthodox medical profession. Mr. Barker has had to make his way to his present eminent position against long and powerful opposition from doctors' organizations, although distinguished surgeons have always been among his supporters. Only last November, a petition on his behalf was sent to the Prime Minister signed by surgeons of such standing as Sir Henry Morris, Sir Alfred Fripp, and Sir Arbuthnot Lane.

Success has slowly worn down prejudice, and there is now general recognition of his extraordinary skill in treating affections of the joints. When, in the early part of the war, Mr. Barker offered his services gratuitously to injured soldiers, medical opposition was again aroused, and there was a debate in the House, followed by a petition, signed by over three hundred members and ex-members, to the Archbishop of Canterbury asking him to grant Mr. Barker a Lambeth medical degree "in view of his unique and distinguished services to suffering humanity."

The Archbishop refused the appeal and expressed the hope that some day other means might be found of marking the public's appreciation.

Of course, almost everybody has heard of the almost uncanny ability that Sir H. A. E. Barker possesses in his particular line of work. Reports of his activities during the war were truly astonishing and the honor bestowed upon him, according to English custom, is not only well merited but reflects upon the British government, itself, which may be congratulated.

Barring the fact that the "bone setter" has not studied medicine, his work reminds one of that for which Professor Lorenz of Vienna is distinguished. We have here one instance where excellent work is accomplished, even without the academic preparation for it. As long as the work is good, due appreciation should be accorded.

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**Enjoy what you've got at the moment and you'll find almost every moment being something enjoyable.**

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## ARE PHYSICIANS EXEMPT?

Physicians, at least those in general practice, usually are so entirely preoccupied with their numerous and absorbing duties that they pay but little attention to the things that are going on around them. Beyond glancing through the papers and, perhaps, commenting approvingly or disapprovingly on certain happenings, they manifest no active interest in those outside affairs. They feel that the saving and preserving of life is a man's job and one that will keep a man fully occupied. Those other things may quite well be left to "George".

And, yet, is not the Doctor a citizen, a family man, a father, as well as a physician? Is he not vitally interested in everything that affects the common weal, the welfare of the community and the country in which he lives? Verily. Therefore, at least in times of stress, the physician is in duty bound to manifest an active interest in outside affairs, in public business, in national matters; and he is not only justified but is doing the right thing in deviating his attention from his patients sufficiently to attend to his civic duties.

On the last day in June, the Chicago Law and Order League addressed the pastors of the Chicago churches, requesting them to stress, on July 2, Patriotic Sunday, the importance of maintaining the government for which our Revolutionary Fathers fought and bled and which was established on the basis of law and order.

"Now", the letter declares, "our government is in peril—in peril because of the spirit of lawlessness manifested in cities like Chicago and in counties like 'Bloody Williamson'.

"What will happen to our government if the lawless element uses the political machinery of the country to justify murder, riots, and other crimes? That is what they are doing in Williamson county . . ."

The letter further urges that all public-spirited men and women should join those forces that have banded together for the enforcement of law and order. "Merely deploring lawless conditions, will not improve them. The law-abiding citizens must organize."

The struggle between the forces of light and those of darkness is as old as mankind; it will continue to be fought as long as there are men and women. Utopia never will become a reality—since we can not be perfect in this world of ours.

That does not mean, though, that we are to sit back supinely and permit the forces of darkness, the lawless, the criminals, to overcome the decent members of society. It does not mean that we are to resort to merely

passive resistance. It behooves every decent and law-abiding citizen to do his share toward making the law respected and toward curtailing and controlling disorder and law-breaking.

Decent citizens, themselves, often are responsible for contempt of law—more often than they realize. Has it ever come home to you that your sneering at the Volstead Act, your occasional offences against its provisions must have an evil influence upon your children inasmuch as it will engender in them a contempt for all law? Do you realize that the deliberate acting against the law—immaterial how foolish or unjust it may be in your opinion—produces inevitably a lowering of your own morale? True, there is a moral law and a (let us call it) legal law. The latter may not always conform to the demands of the former. Still, it is based in its essentials upon the Decalog and contains the elements of morality. To offend against it means to stultify your conscience.

Physicians may offend against the law in various ways without considering themselves as lawbreakers in any way. The infractions of the Volstead Act have been cited; close to them come the evasions of the Harrison Antinarcotic law. Neglect to obey the rules concerning the reporting of births and deaths comes next. Then, in some few (let us hope) instances, the law forbidding the producing of abortions. Some laws, it may be claimed, are more honored in their breach than in their observance. May be so. Still, we opine that the best way to correct a wrong law would be, to repeal it; not, to break it. As long as a law is on the statute book, it should be obeyed. That is what it was put there for.

If whole aggregations of people disobey the law deliberately, if thereby they infringe upon the rights of those who obey the law, it becomes the duty of the commonwealth to stop the wrong. The commonwealth being made up of the individuals collectively, it depends upon those having the greatest influence to make their will respected. If the law-breakers are in the majority, then God pity the commonwealth. If they are in the minority, let those in power make their majority felt and insist upon it that the offenders be brought to punishment and that it be put out of their power to endanger the welfare of the commonwealth.

Those who are entrusted with the administration of justice are influenced, very naturally, by public opinion. If public opinion is lax, careless, sloppy, the law-breakers will often be able to "get away with it". If public opinion is expressed in clear and unmistakable terms, if it insists that justice be meted out, the officers of the law will conform with its provisions. Public opinion always can make itself felt and can force its will through. It depends only upon the people to say what they want.

Now, then, that being the case, it is clearly up to the law-respecting citizens to see to it that their enemies, the enemies of the community, be punished for their crimes and that further crimes be prevented. Preventive Medicine may well apply its remedial agents to the body politic and may be practiced for the purpose of forestalling serious and ruinous political malady. The first step is, for every decent citizen to avoid even the appearance of law-breaking, rigidly and without qualification; in every slightest matter and in every way. The next step is, for the decent citizens to organize and to impress it upon those whose duty it is to enforce the law that they must live up to that duty, fully and without modification. The law has sufficient weapons on hand and available to make itself obeyed. If its officers do not obey it and if they do not enforce it, they become law-breakers themselves and must be made to do their duty.

Still, we believe that the whole is no better, no worse, than its individual parts. Therefore, the more conscientiously the individual obeys the law, the more strongly he will make his influence for good be felt. In the last instance, it is up to the individual; at first personally, then collectively.

Let the Law be obeyed—absolutely and without restrictions.

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**We are all egotists in sickness and debility. An animal has been defined as "a stomach ministered to by organs"; the greatest man comes very near this simple formula after a month or two of fever and starvation.—Oliver Wendell Holmes.**

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## "THE AMERICAN MEDICAL PRESS"

We are in receipt of the initial number (June, 1922) of *The American Medical Press* which is a journal devoted to the political and economic interests of the medical and allied professions. The journal is published at 280 Broadway, New York City. Its editor is Dr. F. H. McMechan.

In the editorial forecast, *The American Medical Press* is designated as a new Declaration of Independence. "In the course of human events," the editor says, "it has become neces-

sary for the rank and file of the medical and allied professions to resume control of their affairs. To do this properly, they need a nation-wide survey of existing conditions and tendencies; the publication of trenchant and unbiased editorial opinion and comment; and, above all, real leadership to put through constructive reform. . . .

"Despite the fact that, through centuries of intensive scientific progress, the medical and allied professions have made the world a better place to live in, there are now those propagandists who would sacrifice all the epochal achievements of individualism to the domination and expendiency of political paternalism. These propagandists have been dividing the medical and allied professions against themselves to alienate public confidence and support and thus accomplish their sinister designs under the guise of communized altruism. . . .

"Unity of action can only come through an awakened professional conscience, in response to an uncensored and fearless medical press. The obligations of acting as a medico-political and economic clearing house have been assumed and will be met by the handling of all issues on their merits. This is every doctor's journal and you are urged to send facts, opinions, and suggestions of benefit to all concerned, for editorial consideration."

The contents of this first issue of *The American Medical Press* promise much. We believe that most physicians will wish to subscribe for this new journal which, we venture to say, will soon become a power in medical journalism. The titles referred to are as follows:

The Menace of Ultra-Specialization in the Practice of Medicine. By Edward H. Ochsner, M. D., of Chicago.

Medical Education and the Future of the Medical Profession. By C. L. Bonifield, M. D., of Cincinnati.

Agitation for Free Choice of Physicians in Workmen's Compensation Cases and What it Leads To. By E. V. Delphey, M. D., of New York City

A Study of Seventy-five Unmarried Mothers. By Mrs. C. M. Janes, of Kansas City, Mo.

The Nursing Situation in Relation to Hospitals and Care of Sick. By Norman Bridge, M. D., of Los Angeles.

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**After all, it is a mercy in this world that there should always be a grotesque side of your misery. Otherwise, the burden of life would now and again become too great to bear.—F. C. Philips.**

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## THE EIGHTEENTH AMENDMENT AND THE DOCTOR*

Recently, a new book was submitted to us for review, which has for its object to show that the Eighteenth Amendment was, and is, wrong. To review this book in its proper department, would utilize more space than can be devoted to it there. For that reason, and also because CLINICAL MEDICINE has steadfastly approved of the acceptance of the Eighteenth Amendment and is opposed to its repeal, the book is discussed here editorially.

It must be conceded that Mr. Stout's book shows, throughout, an earnest desire to establish the truth by calm, unbiased and dispassionate reasoning. His principal argument is, that the prohibition movement, leading to the acceptance of the Eighteenth Amendment and the Volstead Act, is against Nature, inasmuch as alcohol is necessary for the normal functioning of the animal body. He reasons that alcohol is a food, since, by its effect upon the nervous system, it aids assimilation and, therefore, indirectly assists in building tissue and energy. The body produces alcohol in the course of digestion, but that may not be sufficient in quantity and then, the author claims, it is necessary to supply the want. He likens alcohol to the oils which effect lubrication in a machine, and asserts that it is necessary. "To attempt the artificial regulation of this necessity because it sometimes produces intoxication, is about as sensible as to ask the motorist to give up the use of lubricating oil because it occasionally works into the cylinders". . . . "The new-born baby", he avers, "begins acquiring the alcohol habit with the first drop of milk it takes from its mother's breast—a habit of manufacturing alcohol for its body's needs".

Against the resolution passed by the House of Delegates of the American Medical Association, on June 6, 1917, to the effect that the use of alcohol is detrimental to the human economy and that it has no scientific value in therapeutics, he cites Hare ("Practical Therapeutics") who supports the therapeutic administration of alcohol as well-founded and proper. The author declares that "to pass the test of modern medicine, we must be able to show that alcohol will assist the body to remove the cause of disease. This has now been definitely established, with the result that the whole structure of the prohibitionist's argument against the use of alcohol in medicine has fallen like a house of cards".

As most of the arguments against alcohol are collected in Fisk: "Alcohol—Its Relation to Human Efficiency and Longevity", the author examines Doctor Fisk's statements in considerable detail and shows that most of

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*The Eighteenth Amendment and the Part Played by Organized Medicine. By Charles Tabor Stout. New York: Mitchell Kennerly, 1921. Price, $1.50.

the experiments, purporting to establish the injurious effects of alcohol, do not prove anything because they were not carried out under unobjectionable conditions.

It may be mentioned that, having studied medicine, the author can not be considered as a layman and that his opinion must be accorded consideration. Altogether, his arguments are too sincere and too free from preconceived bias than that they could be discarded without due hearing.

Of course, it must be taken into consideration that all the really sincere protagonists of prohibition have acted because of the frequent abuse of alcohol and on account of the misery, the crime, the poverty that follow in the wake of chronic alcoholism. In discussing the problem, alcoholism was, for years, regarded as a crime, a vice. It is only comparatively recently that it has been realized that an alcoholic is so not because of a depraved morality but because of a depraved physiology and mentality. Indeed, Mr. Stout quotes a remark made by Dr. William A. White, superintendent of the government hospital for the insane (St. Elizabeth's Hospital) at Washington, D. C., at a meeting of the Society for the Study of Inebriety, to the effect that the president of that society once declared, in discussion, that he had never seen an inebriate who, aside from his inebriety, was a normal man.

If that is the case, if physically and mentally normal people are not in danger of becoming alcoholic addicts, as little as they are likely to become addicts to morphine, cocaine, or other habit forming drugs, the arguments put forward by Mr. Stout in his well-written book are entitled to attention and the whole problem of prohibition requires reconsideration. We hold no brief for the repeal of the Eighteenth Amendment. In fact, we have repeatedly gone on record against such a repeal. Still, it must be acknowledged that the question has, even now, not been investigated sufficiently to be settled.

While we, personally, believe that alcohol is but rarely required as a remedial agent and that in most cases corresponding results can be secured by other means, it must be admitted that circumstances do arise when nothing will take the place of good brandy or whisky. It should be possible for physicians to prescribe such emergency treatment without being suspected of illegal practices.

One of the most serious hindrances in the way of a proper ventilation of the prohibition question is the fact that most people consider the Eighteenth Amendment and, still more, the Volstead Act as a huge joke. It is no joke. Far from it. The problem has many ramifications that are not even dreamed of by most ready reasoners but which will show their evil effects in time; even do so now. Because it points out many important phases of the problem, Mr. Stout's book should be accepted as what it is: a serious and honest attempt to throw light into a dark subject.

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The Review Editor submitted his review to one of his colleagues of the Editorial Cabinet, and received from him a note entering into the subject with such clarity and justice, that we wish to give our readers the benefit of his opinion. He says:

I have not read this book. As to the author, I know nothing about him, but he apparently is not a physician.

I suspect that the book itself is propaganda, pure and simple, paid for by people who would benefit in breaking down of the Eighteenth Amendment and the repeal of the Volstead Act. A man who makes the statement that he does in his introduction, on page 9, that "there is but one excuse for prohibition, and that is ignorance", seems to me lacking in the fundamental qualities necessary for an impartial review of the prohibition problem.

It is perfectly plain that there is a well-organized and well-financed propaganda under way for the destruction of prohibition legislation. This propaganda is not entirely argument; for instance, some of the most powerful appeals to popular prejudice are made through the movies. You have perhaps noticed, as I have, that there is hardly a single movie show put on in this country in which there is not some slam at prohibition.

The argument is constantly used that human liberties are being destroyed because booze has been taken away; that the Declaration of Independence has been made a laughing stock because men are no longer supposed to be free to gratify the appetite for alcohol. By the same method of reasoning, every other appetite should be given free rein.

When I was east a month ago or more, I read in *The New York Times,* which, by the way, is an antiprohibition paper, a report by one of the New York City officials on the number of arrests for alcoholism and other causes in the City of New York since prohibition, compared with a similar period before prohibition. The man who contributed this

report was not a prohibitionist. The falling off in these arrests was startling.

In this connection, an article appeared in a recent number of *The Review of Reviews,* which I read on the train from Chicago to New York, last month. It gave statistical records showing that, in spite of the failure to enforce the prohibition law, there had been a tremendous decrease in crime of all kinds, and particularly in arrests for alcoholism.

That alcohol has a profound influence upon society, and that it is a factor in the production of poverty, insanity and degenerative diseases, that it reduces resistance in acute diseases, that it is intimately associated with the production of diseases of society, and that it has brought ruin to thousands, no man who looks at this thing fairly and squarely can doubt for one minute.

It is quite true that there are certain men who take to alcohol because they are weak of body or weak of will—in other words, unsound—There can be no doubt of it. But, that this class makes up the majority of alcoholics, I am not prepared to admit. I can tell you of case after case of men of my own acquaintance, brilliant men, men of unusual ability, successful in their business and profession, who have been sacrificed directly or indirectly to alcohol. I have particularly in mind a group of five men living in H— when I was there. They were men about my age, the best blood of the town, if I do say so. Three of the five are now dead as a direct result of their indulgence or habitual indulgence in alcohol.

I confess that this more or less maudlin sentiment with regard to the freedom of men to have their drink appeals to me very little. You might well quote to these men those words of St. Paul—at least I believe it was St. Paul—that "If meat make my brother to offend, I will eat no meat . . ." Many men have suffered inconvenience because they have been deprived to a greater or less extent of the alcoholic drink to which they are habituated. Most of these men, however, succeeded in getting all they wanted without much trouble, and it hasn't been wood alcohol either. Usually it is the home-made stuff, which is really better than the fabricated liquors produced by the bunch of people who formerly controlled the distilling and liquor interests of this country.

But, while some have suffered inconvenience, thousands have been helped, and other thousands saved, either in body or soul; and many more will be saved if those of us who believe in man and are not fooled by insidious propaganda, will devote our strength and our influence to a reasonable enforcement of the Eighteenth Amendment.

There—I started out to write about ten or fifteen lines, but I see I have boiled over and said about ten times as much as I intended to say. I suspect you will "guess" that I am a prohibitionist. [Well, we have had a suspicion of it.—REVIEW ED.]

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**Economy is going without something you do want in case you should some day want something which you probably won't want.—Anthony Hope.**

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## OUR CONTRIBUTORS—ACTUAL AND PROSPECTIVE

On another page of CLINICAL MEDICINE (p. 612), we print a very nice, cordial letter from one of our old and valued friends and subscribers, Dr. H. S. Brevoort. The good doctor asks us, in reply to an editorial question: "What do Readers Want?" to publish experiences, of practitioners in the field, with the alkaloids. Let us enlarge that idea a little and say, experiences with any positive, definite, active remedial agent or agency.

Our correspondent repeats for us what we have said, ourselves, many times; what we have tried to urge upon our readers and to which we have hoped to receive active response to a greater extent than has been the case. Not only that, but we also had hoped that far more would be impelled to discuss some of the articles that have appeared recently, than have done so.

In the various editorial departments, we may give expression to opinions that must be at variance with those held by others. Most of the problems there ventilated are, we opine, of sufficient importance to be talked over. We give our views, as we have developed them through reading, cogitation and discussion. After that, we can but feel that we have set the ball rolling; somebody else must pick it up and pass it along.

Further, in many of the leading articles, assertions are made and observations are recorded that must be of marked interest to many readers. If that be true, it seems to us, these things will become all the more valuable through discussion.

Of course, we know that the general practitioner, especially our country brother, does not often feel in the mood to write. He is well satisfied if he can do all the work that

is his to do and if, in addition, he succeeds in reading at least one or two of the medical journals that come to his desk. Still, from our own experience (Oh, yes, the present writer has been a country doctor!), we are certain that, very often, a little time can be spared for a letter to the editor; or even for a brief article. This editorial writer used to get off letters to Dr. Abbott, years ago, and quite a number of articles that were printed in the old ALKALOIDAL CLINIC and elsewhere. He was busy, too; too busy, in fact. That's why he had to give up general practice.

The point is this: It is of such great advantage to exchange personal opinions and experiences, we all of us learn so much from this exchange, and, mark well, those who take part in a discussion or who prepare papers are so indisputably the greatest gainers thereby, that we want to keep on urging all of our readers to contribute to the reading pages of CLINICAL MEDICINE. As an entirely self-interested action, it is worth while. Then, also, we owe it to our colleagues to inform them of anything of general interest and value; to give them the benefit of our experience, our observation.

What to write about? Gee! Whizz! There are stacks of subjects and topics. Think of the whole alkaloidal materia medica; think of the many problems connected with children's diseases. What about the use of local anesthetics? How are the bacterial vaccines working in your experience? What have you observed after supplying a suspected or apparent deficiency in endocrine function? Subjects? The woods are full of them; so full that we must take care lest we stumble over them.

Now, will you write?

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**Bourgeois is an epithet which the riffraff apply to what is respectable, and the aristocracy to what is decent.—Anthony Hope.**

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## GOVERNMENT DICTATION OF MEDICAL PRACTICE

Like all other medical journals, and together with most thinking physicians, the editor of the *Illinois Medical Journal* (June, 1922) is concerned at the tendency of the federal government to extend its powers and activities far beyond the original purposes contemplated by the framers of the constitution. The editor says:

"The idea of Federal domination of medical practice as well as in other matters is being generally agitated by small but active factions in our country. The movement has reached an alarming strength. The unhappy omen is, that so many Americans are utterly unaware that this movement indicates that there is to be an essential change in our form of government."

He continues: "The danger which every republic should fear is, overcentralization with the subsequent substitution of domination by one man for the rule of the people. Germany is the historic symbol of absolutism. We have just concluded a war, undertaken, we are told, that democracy might not perish from the earth. If this is true, to attempt to centralize in Washington the management of affairs that rightfully belong to the respective states is, to create a system which can not but destroy democracy among our people by betrayal of principles which are the fundamentals for the maintenance of government.

"The centralization of powers, whether in industry, commerce, education or the trades or professions or other factors entering into affairs of our everyday life amounts to this: That, if we grant to an individual the power to make standard or be the sole authority to revise, abolish or fix conditions under which the people of the future have to live, work and be educated, we set up an oligarchy which will create and foster bolshevism.

"Another tendency is, to foist bureaucratic institutions upon the people with its added swarms of employes. Such swarms are bad enough wherever found, but, in the management of government practice of medicine, they will be fatal to the interests of the people.

"Bureaucratic administration and government practice of medicine will mean compulsory shifting of duties, proper to the individual, to a subsidized governmental agency and this in the end will destroy the initiative, self-reliance and independence, without which democracy degenerates into autocracy.

"Socialistic schemes, such as health insurance, state medicine, etc., for the control of medicine would be the opening for the thousands of similar laws that would follow. In a short time after the enactment of initial ones, the government would be embarking wholesale in enterprises for which no constitutional bill of rights exists, and which forthwith establishes a socialistic state. And where would it all end? We know where it ended in ruined Russia. Are we a people so favored that we can sow the wind and fail to reap the whirlwind; that we can play with pitch and elude defilement; set in motion efficient causes and

escape effects; establish a system of autocracy embracing every human activity and continue to be a nation of free people—a republic—an indestructive union of indestructible states?

"We are facing the federalization of medicine as exemplified in the Sheppard-Towner Bill, the federalized school as represented by the Smith-Towner Bill; and these, if enacted, will be followed by and used as justification for the federalized church or federalized method of worship and of all details of daily life."

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**Perhaps if the shams of society did not hedge us round with barriers which seem impassable to our shame, and curb some of the most honest and generous feelings of our hearts, there might be better men and women in the world for the pulling down of a little conventionality. How often does some noble impulse die in the birth, because it is not the custom to show that we feel it, and Mrs. Grundy, with her satin petticoats covering her festered sores, would gather them more closely around her, when she heard of the solecism we had committed.—Florence Marryat.**

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## THE ADOLPH LORENZ CLINICS

The *Monthly Bulletin of the Department of Health, City of New York* (May, '22.) contains a detailed report of the clinics held by Professor Adolph Lorenz, of Vienna, during his visit to this country, in November last. In a foreword to the report, Dr. Royal S. Copeland, Commissioner of Health, declares that never before has the problem of the rehabilitation of our cripples been so forcibly presented to the attention of the public at large. Through the coming of Dr. Lorenz, the possibility of relief, for many cases of deformity, at least, was brought to the cognizance of many interested persons, and it became Dr. Copeland's desire to locate such persons and to urge them to place themselves under the supervision of the New York orthopedists in New York institutions. In so far, Dr. Lorenz' visit was, undoubtedly, an occasion of great importance in public-health work.

While cases for examination and later treatment were to be selected from those of (in the order of preference) congenital dislocation of the hip; congenital club foot; deformities resulting from infantile paralysis; spinal diseases and deformities; chronic joint deformities; miscellaneous cases, and while the examining stations were to be only open to cripples under sixteen years of age, it was to be expected that many more than the sixty patients that were to be selected for examination by Dr. Lorenz would apply and that the age limit would be ignored by those seeking relief. From the city and distant neighborhood of New York, 2,113 cripples came, of almost every conceivable type of deformity and of all ages.

For the attention of interested public-health workers, the preliminary examination brought out the fact that:

1. There was a very large number of crippled children in New York City;
2. Some of the deformities were preventable;
3. Many of them could be benefited by further treatment;
4. In many instances, treatment had not been persisted in sufficiently long.

It will be remembered that the hospitals and clinics in New York did not feel justified in offering Dr. Lorenz the requisite facilities for his intended work. As to the justice, or not, of this decision, it is not our purpose to express an opinion. At any rate, the Commissioner of Health called a meeting of leading orthopedic surgeons, physicians and city officials to confer with him and Dr. Lorenz, as to the advisability of affording the general public, free of cost, the services of Dr. Lorenz; in other words, of having public clinics conducted at the offices of the Department of Health, on "neutral ground". This suggestion met with cordial response and suitable arrangements were made.

The examinations conducted in New York and elsewhere showed that, approximately, 6 out of every 1,000 of the population are cripples. It also may be concluded from the result of these clinics, and from observations, that a very fair percentage of these cripples can be improved considerably by proper and persistent treatment. This we take to be one of the most important lessons of the report.

It is impossible, in the space of an abstract, to enumerate the numbers and varieties of deformities that were examined by the orthopedists in charge of the work. We believe that the issue of the *Bulletin* containing the report can be had by application to the New York Department of Health. It must be conceded, however, that the problem of treating these unfortunates, these stepchildren of Nature, has received a strong impetus and that many of them have imbibed new courage to continue in their efforts for relief.

# Leading Articles

## The Present Status of the Cancer Problem*

By L. DUNCAN BULKLEY, A.M., M.D., New York City
Senior Physician to the New York Skin and Cancer Hospital, Member of the American Cancer Research Association, etc.

*EDITORIAL COMMENT.—As we all know, Dr. Bulkley has, for years, protested against the limited and exclusive views of surgeons and pathologists, according to whom malignant disease is circumscribed and localized and is, virtually, contained in the surgical lesion. Dr. Bulkley claims that cancer disease, or, more correctly, carcinosis, is a systemic malady which has certain characteristic features even before any localization, in the form of a surgical lesion, has made its appearance. If this view is correct, cancer-researches would have to be extended in directions different from those followed at present. However, such researches would, it seems to us, have a better chance of success than appears to attend our present efforts.*

THE present status of the Cancer Problem cannot be stated in a few words; for, there are two distinctly opposite views, and there are yet those who hold two distinctly opposite opinions regarding the cause and treatment of cancer. So opposed are these views that neither can be absolutely correct, but both may have some truth in them. We shall see which is most likely to be true.

In the present study, it is understood that cutaneous epithelioma is excluded and that the discussion relates to true carcinoma and sarcoma of internal organs. It is recognized that cutaneous epithelioma is largely a local affair, especially the basal type which seldom metastasizes, and that it is of local origin and can be cured by various local measures. Moreover, diet and internal medication have little or no influence on its cure. Quite different are the deeper-seated conditions or diseased states commonly classed as cancer (or, more properly, carcinosis) of which the lesion, usually called cancer, is but the local expression or product.

### Two Opposing Views

The first and more modern view regarding cancer is that held by many surgeons, supported by pathologists and laboratory workers, who claim that it is a local disease and that the only possible hope of cure must result from the extirpation of the offending mass by surgical removal or, more recently, by x-ray or radium, often combined with surgery. This view has been so stoutly maintained and widely promulgated by the surgeons that a good share of the medical profession and laity have accepted it as a fact during the past twenty years, and this line of treatment has been largely followed, at the cost of many millions of dollars and very many lives. We shall presently see what the official records of deaths from cancer show, as the result of this policy.

The second, or older, view of the nature and treatment of cancer is one which has been supported and advocated all along, during the last hundreds of years up to the present time, by men of experience and prominence, medical and surgical; and it is exactly the opposite of the preceding one. This latter is, that cancer (or, more properly, carcinosis), is a systemic, or constitutional, disease of which the lesions, commonly called cancer, are but the local expressions, or products, just as are those of late syphilis, tuberculosis, leprosy, rachitis, certain manifestations of gout, arteriosclerosis, etc. The recurrences of cancer are to be accounted for by a new development of disease, from the same internal causes which produced the first lesion.

This latter view is supported by reviews and articles in a large proportion of the medical journals, and by letters from intelligent physicians and some surgeons, coming in with almost every mail; while the laity seem to be more and more impressed with the futility of surgery as a real cure for cancer, and with a fear of x-ray and radium, on account of the occasional disastrous results from their wrong employment.

Some surgeons are also recognizing that surgery does not cure cancer. Thus, Deaver[1], in

*Read before the Oneida County Medical Society (New York), January 10th, 1922 and the Sullivan County (New York) Medical Society, January 11th, 1922.

[1] Deaver, The Breast and its Anomalies, Philadelphia. 1917. p. 476.

his masterly work on "The Breast and its Anomalies," says: "The nature of carcinoma is unknown.....in spite of a great deal of experimental research on the subject....Thus, a generation of workers have labored with great industry, intelligence, and patience, and a mass of information has been collected; but, when it is carefully sifted, we find ourselves very much where our forefathers were as far as any clear idea of the cause and nature of cancer is concerned. But, what is more disappointing, we are precisely where they were as far as the treatment is concerned....We still do nothing to cure it." Also Ewing[1], speaking of cancer of the breast, says that "there can be no doubt that operation shortens life and aggravates the terminal suffering in the great majority of recurrent cases."

We will now consider separately the wisdom and truth of these two opposing views.

### Surgeons' View Untenable

First in regard to the too readily accepted but unproved dictum of the surgeons and research workers, that cancer is a local affection requiring for its cure only the complete removal of the first lesion, by surgery, x-ray, or radium. While there seems at first sight a good deal to support this view, on close analysis it will be found to be quite untenable. Let us first consider some of the points supporting a local nature of cancer, which have been mainly presented by Cohnheim and Ribbert, namely that it arises from prenatal "embryonal rests"; observations looking thereto had been made by Paget, Pemberton, Virchow, and Remak (as shown by Roger Williams[2]) years before Cohnheim had worked it into a complete theory.

Undoubtedly, the claim of the development of cancer from "embryonal rests," or dislocated tissue cells of antenatal or postnatal origin, finds support in the inclusion of various tissues often found in connection with benign and malignant tumors in the uterus and breast, and also in branchiogenic cancer, whether these "rests" be of ectoblastic, endoblastic, or mesoblastic origin. This is also supported by the curious features connected with teratology and teratoma. But, as far as I can learn, no satisfactory explanation has ever been afforded why these "rests" remain quiescent and harmless until advanced age, or why only a single one is the starting point of such a riotous and destructive process ending in death; for real cancer commonly begins at a single point. Apparently, from recent literature, the belief in the importance of "rests" as the real causative element in cancer has been waning, and relatively few hold it strongly, though still adhering to the local causation and nature of the disease.

Trauma or prolonged irritation would seem to give some support to the view of the local nature of cancer, but even Ewing[1] says: "Yet, the action of all these special etiological factors, as irritation, trauma, and inflammation, is only secondary and indirect, and, without combination with other predisposing conditions, they are incapable of producing tumor growth. In a great many cases, the above special factors exist, but no tumor develops". While it must be acknowledged that local chronic irritation acts as the exciting cause of a malignant formation in some particular localities, we must recognize that, of the thousands of instances where these are present, there are an infinitely less number of cancers developed.

The surgeon attributes cancer of the lip to smoking; but, of the millions who smoke, how few have cancer? Cancer of the tongue and buccal cancer is charged to jagged teeth; but, how many have these for years and no cancer develops? Blows are charged with the development of breast cancer; yet, every women has at some time had a blow on the breast without being affected. Cancer of the gall-bladder is said to arise from retained gall-stones; but, in thousands of operations for gall-stones, even long retained, very few cases of cancer of the gall-bladder are found, and the same is true of urinary stones, etc. W. J. Mayo has pointed out that cancer develops in locations where there is acidity, as in the stomach, colon, and mouth, and in the latter location the saliva is invariably found to be acid, as it is also very commonly when there is carcinoma in other locations. In other words, back of the carcinomatous development, there must always be a systemic condition of which it is the expression, even as in the case of gumma in late syphilis, or in gout whose first manifestation may occur when the foot is stepped on.

### Recurrence After Operation Explained

The unquestioned occasional results of surgery, x-ray, radium, caustics, diathermy, etc., in apparently curing certain cases of cancer, for a time at least, would also seem to support the claim of its local nature. But, on the contrary, when one has examined the subject very carefully, has devoted much attention to can-

[1] Ewing: "Neoplastic Diseases," Philadelphia 1919, p. 522.
[2] Williams: Natural History of Cancer, New York 1908, p. 143.

[1] Ewing: *Loco citato*, p. 110.

cer for a long time and has seen a large number of cases, the aspect is somewhat different. Cancer undoubtedly spreads through the system largely by the lymphatics and, if the original focus is removed early, there is naturally a lessened source for its dissemination. But, unfortunately, by the time the local lesion of carcinosis is large enough to be fully recognized and before it is extirpated, there is, as a rule, already somewhere some involvement of the lymphatic system, too slight to be recognized and removed, and in due time the disease manifests itself anew.

In years past, when the wound after a cancer operation had healed, which it commonly does with remarkable ease and speed, the operation was declared to be a success and the patient dismissed with the hope that the disease was ended. However, as the patient later failed in health and weight, with or without a reappearance of the disease in the same location, it was recognized that more radical measures should be instituted, and attempts were made to remove also adjoining enlarged glands and, later, even muscular and fibrous tissue. Unfortunately, the permanent results were still far from satisfactory.

Then, as it became more and more evident that there were recurrences at earlier or later dates, surgeons became more cautious and acknowledged that operations secured only a supposed, temporary advantage; the time was lengthened to one, two, and three years, and finally a five year limit was fixed upon when the case was believed to be cured. Now, some agree that surgery, x-ray, radium, etc., cannot be expected to actually cure the disease. For, as the disease recurred, patients would often seek another surgeon or return to their family physician or others, who would care for them till death ended their sufferings. Those of us who see many cancer patients can bear witness to the recurrence or the new development of cancer, in some form, even five, ten, fifteen, or more years after surgical removal. Later on, we shall see how different this is in regard to those who have faithfully undergone sufficient, proper and prolonged medical treatment. It has been repeatedly claimed that, if one hundred patients with the local lesion of carcinosis had been treated, one-half by surgeons and one-half by their own family physicians, the total length of life and comfort of the latter would far exceed that of the former group.

However, whatever gain may be had in individual cases, the fact remains that, under the dominance of surgery during the last twenty years, cancer as a racial disease has shown such steady, tragic, and lamentable strides in its death rate, that all are inquiring what can be done to check it. The American Society for the Control of Cancer has certainly not accomplished anything at all, or even suggested anything other than early and repeated operation.

### Cancer Morbidity Increasing

Time does not permit of a full presentation of the items which show the unchecked progress of the disease, but which has been fully elaborated in my last book[1]. Still, a few of them may be mentioned here.

In 1900, the death rate from cancer, as shown by the United States Mortality Tables, was 63 per 100,000 living, and this has *risen* to 83.4 per 100,000 in 1920, as by a special report sent to me from Washington; this latter was against 80.5 per 100,000 in 1919, a *rise* of 2.9 persons per 100,000 during 1920. Thus, in all, there has been an *increase* in cancer deaths of 20.4 persons per 100,000 living during these last twenty years, or over thirty percent under surgical dominancy. Against this, there was the gratifying *decrease* of deaths from tuberculosis, in all forms, under careful medical management, from 201.9 per 100,000, in 1900, to 114.2 per 100,000, in 1920, or a decline of over 43 percent! This is all the more startling when we take figures from the Special Cancer Report issued by the United States, in 1914. In 1910, the estimated population of the registration area was 30,765,618, and, in 1914, the then larger area of registration included a population of 65,989,295; that is, the population reckoned with had a little more than *doubled*, while the cancer deaths had nearly *tripled* in these 14 years, namely 19,381, in 1900; 52,420, in 1914, and now, 72,931 in 1920.

It is interesting also to note that, in 1915, after the great activity (in 1914), in cancer education and in operative surgery, the increase in the death rate was 1.7 persons per 100,000 living, while during the whole preceding five years the total rise was but 5.6 persons per 100,000 living, or less than 1.2 per year; so that this activity of educational propaganda and surgical activity had actually resulted in *raising* the death rate by 0.5 person per 100,000 over the average yearly increase of the preceding five years.

In New York City, as shown by the Weekly Bulletins of the Department of Health, there was a startling *increase* in the number of deaths from cancer during the year 1920. There were

[1] Bulkley: Cancer and its Non Surgical Treatment, N. Y. 1921, p. 14-41, 222-241.

5,361 deaths recorded from cancer in 1920, against 5,026 deaths in 1919, an *increase* of 335, or over 6.6 percent; whereas the increase in cancer mortality throughout the whole United States has commonly been between 2 and 3 percent. Moreover, in New York City, during the same year there was a *diminution* in the total deaths from all causes, of over 2.5 percent. Furthermore, the deaths from tuberculosis *decreased* 1.5 percent. During the last six months of 1920, there were 2691 deaths recorded from cancer and only 2669 from tuberculosis, giving an excess of 22 cancer deaths; and all this with the best surgery, x-ray, and radium! From the data furnished by the New York City Department of Health, it appears that the excess of deaths from cancer over those from tuberculosis, during 1921, was still greater than in the previous year. Thus, in 1921, there were 5,656 deaths from cancer against 5,225 from tuberculosis, an excess of 431 from cancer, whereas, in 1920, there was an excess of tuberculosis deaths. The weekly average death rate from cancer last year was 106, or over 15 a day, against 98 from tuberculosis, or 14 a day. In a recent week, ending October 29th, there were 130 deaths from cancer, or an average of over 18.5 a day. During 1921, there was a *fall* of the total mortality from all causes of 12 percent, and also a *fall* in the tuberculosis mortality of 16.6 percent, but a *rise* in the mortality from cancer of 5 percent.

### A More Promising View

Turning now from this agnostic and discouraging side of the cancer problem, let us see what are the elements looking toward a systemic or constitutional nature, cause, and treatment of cancer, which are indeed bright with promise.

In order to clear the way to a proper understanding of our subject, it will be well to consider first what points have been already determined by scientific laboratory research and clinical observation, both negatively and positively, in regard to the nature and character of cancer. First as to the *negative* features:

1. Cancer is *not* wholly due to traumatic causes, although these may play some part in its local occurrence in certain localities and cases, when other causes coexist; as in late syphilis, tuberculosis, gout, etc.

2. It is pretty conclusively established that cancer is *not* caused by a microorganism or parasite; for, although various forms of these have been seen in connection with the disease, none have ever been shown conclusively to convey cancer to another living being.

3. It is known clinically and experimentally that cancer is *not* contagious. Surgeons, pathologists, and nurses have never contracted the disease in the practice of their profession, nor has human cancer been conveyed to animals by inoculation.

4. *Nor* is cancer hereditary in any appreciable degree, as Life Insurance statistics have repeatedly shown; although certain rare instances have been reported where such seemed to be the case, and some tendency in that direction has been demonstrated in regard to certain strains of tumor in mice.

5. Occupation has *not* any great influence in the occurrence of cancer; although it has been claimed to be more frequent in some pursuits than others. A careful study of these instances shows that, in the former, there are elements which demonstrate constitutional causes leading up to the disease.

6. Cancer is *not* altogether a disease of older years, although its incidence is increased with advancing life.

7. Cancer does *not* especially belong to or affect any particular sex, race, or class of persons. It is, however, more frequent in females than in males, although of late years the proportion in the latter is steadily increasing.

8. Cancer is *not* confined to any climate, location, or section of the earth, but has been observed in all countries and climates; though with different frequency according to the mode of life there.

It is thus seen that no single or definite cause of cancer has been demonstrated, in spite of an immense amount of laboratory effort. Nor is it at all probable that any such will ever be found, as experimental and other investigations have already covered almost every possible line of research, with only *negative* results as to any definite cause.

However, while laboratory and other investigations have not demonstrated any single cause of cancer and have yielded only negative results, they have, by elimination, cleared the way for a study of its causes along other lines, which are very hopeful. They have established certain facts that confirm the views which from time to time have been expressed by surgeons and by those who were best acquainted with cancer, and which are daily gaining wider acceptance. Laboratory investigations therefore have established certain *positive* results which are encouraging.

1. We know now that the local mass, which we call cancer, represents but a deviation from the normal life and action of certain ordinary cells of the body. These once normal cells take on an abnormal and morbid action, with a continued tendency to a malignancy which invades contiguous tissues and even distant parts, and in the end tends to destroy life.

2. There is some reason to believe that this diseased action takes place first in what is known as "embryonic rests" or prenatal misplaced tissue elements. But these latter are shown to exist in every individual in many localities, while few of them ever take on this malignant activity. Moreover, in a large share of instances, no such connection has ever been shown microscopically.

3. Microscopic study has shown that there is a certain change in the polarity of cells about to become cancer-genetic, with an altered relation of the centrosome to the nucleus. These changes have been well attributed to the enzyme of the cell, which further depends on its nutrition, as influenced by a faulty metabolism of food elements, and faulty systemic action.

4. The blood in advancing cancer has been repeatedly shown to exhibit many manifest changes which indicate vital alteration in the action of organs that form blood and so control the nutrition of the body and its cells.

5. The exclusion of all other possible causes of cancer leads us naturally to look to a disordered metabolism as a cause of the disturbed action of the hitherto healthy and normal cells, and we find much to confirm this view, both, in laboratory studies of the biochemistry of cancer and also in clinical and statistical observations abundantly present.

6. Laboratory and clinical evidences demonstrate that the secretions and excretions of the body, both in early and late stages of cancer, exhibit departures from the normal which deserve attention. While none of them have been established as pathognomonic of the disease, they all indicate metabolic disturbances which influence the nutrition of the cellular elements; and so, these secretory disturbances are of importance in connection with the causation of cancer.

7. As all healthy cells of the body, by their katabolism and anabolism, contribute a hormone or something to the general circulation, so experimental evidence shows that the cells of the cancer mass itself, when fully developed, secrete a hormone or something which is poisonous to animals and which probably hastens the lethal process of the disease.

8. Repeated laboratory experiences have demonstrated in a most remarkable manner the absolutely controlling effect of diet on the development of inoculated cancer in mice and rats, so that the process was inhibited almost entirely by vegetable feeding.

It is thus seen that, just as laboratory experiences have eliminated the local nature of cancer, so they have also in a measure established the fact that there are medical aspects of the disease which further studies will show to be of the utmost importance. All this tends to demonstrate the systemic or constitutional nature of cancer, that is, its relation to or dependence upon deranged metabolism and nutrition, which are recognized as the basis of many diseases of more or less serious character.

**Support of Author's Views**

But clinical and statistical studies come in with overwhelming force to confirm the correctness of the position.

1. It is recognized that, under medical neglect, the mortality from cancer has steadily increased in the United States in late years, in spite of the prodigious advances in surgery and its attempts to control the disease. This also is true of every country from which we have any accurate statistics. We know, however, that tuberculosis, as a result of wise and careful medical attention, has decreased in its death rate over 40 percent in the United States, and a great decrease is reported by reliable observers all over the world.

2. Any number of observers, in many lands, have recorded the almost entire absence of cancer among aborigines living simple, largely vegetarian lives. They have also shown the definite increase in the mortality from cancer among these, in proportion to the adoption by natives of the customs and diet of foreigners.

3. The increase in cancer mortality seems to depend largely upon the altered conditions of life attending modern civilization, particularly along the lines of self-indulgence in eating and drinking, together with physical indolence.

4. Statistics from many countries show that a per-capita increase in the consumption of meat, coffee and alcoholic beverages appears to be coincident with a very great and proportionally greater augmentation in the mortality of cancer.

5. Clinical observation has time and again shown the specific effect of nerve strain and shock on the development of cancer. There seems to be little question but that the enormous nerve-strain of modern life has much to do with its increased prevalence and mortality. This occurs both through its distur-

bance of metabolism and by the direct morbid action on living cells, as seen in other conditions.

6. As yet, no clear demonstration is possible of the direct, specific method by which errors of metabolism effect the changes in body cells to which we give the name malignant, any more than we know how other alterations in the body are produced, such as arterial degeneration, bone changes, obesity, etc., which are recognized as due to metabolic derangement.

7. The results which have been observed, in connection with the starvation of cancer by ligation of blood vessels, illustrate the dependence of the morbid tissue on its deteriorated blood supply.

8. Finally, the repeated observation and report by careful and competent medical men of the spontaneous disappearance of cancer shows that conditions of system may arise which are antagonistic to malignant growth, even when it has begun to take place; just as the other wrong condition of the system arose which favored the aberrant and malignant action of previous normal cells in forming cancerous lesions.

### Cancer a Systemic Disease

Having now examined the position of those who still believe in a local cause, nature, and treatment of cancer, and the reasons why this is untenable, as shown by laboratory clinical, and statistical evidence, and having also shown the grounds for believing in the systemic or constitutional origin and nature of malignant disease, which have been ignored by the surgeons but never have been refuted or even scientifically disputed, let us regard the latter a little more minutely, looking toward the measures of value in the cure and prevention of cancer.

First let us recall the evidence of those who in past time have more or less strongly emphasized the constitutional nature of cancer. We will not go back to the older humoral theories, but only refer to some of the physicians, surgeons, and pathologists of later years, whose opinions along many lines are accepted and whose views I have already quoted in my recent article[1] on "Proofs of the Constitutional Nature of Cancer."

Over one hundred years ago, the great English surgeon, Abernethy[2] very earnestly said: "There is no subject which I think more likely to interest the mind of the surgeon than that of an endeavor to amend and alter the state of a cancerous constitution. The best-timed and best-conducted operation brings with it nothing but disgrace if the diseased propensities of the constitution are active and powerful. It is after an operation that in my opinion we are more particularly incited to regulate the constitution, lest the disease should be revived or renewed by its disturbance".

Over seventy-five years ago, Walshe,[1] in his masterly and much quoted treatise on cancer in all its relations, gave references, original or quoted from recognized authorities, in regard to the constitutional nature of cancer, as well as expressions in regard to the futility of expecting that surgical interference could cure the disease in any great proportion of cases. He says: "It would appear in theory that the removal of a tumor cannot in itself cure the disease, as the local formation is but a symptom of a general vice of the economy....This tissue being, as the normal textures, the seat of nutrition, it is, like them, susceptible to its disordered action".

Sir Astley Cooper,[2] the great English surgeon, had some time before expressed the same opinion.

Dr. Hughes Bennett[3] believed that cancer was connected with "some derangement of secondary digestion".

Sir James Paget,[4] that prince of pathologists and surgeons, over fifty years ago, spoke very strongly in regard to the internal relations of cancer. He says: "I believe it to be constitutional, in the sense of having its origin and chief support in the blood, by which the constitution of the whole body is maintained.... The existence of the morbid material in the blood, whether in the rudimental or in the effective state, constitutes the general disposition to cancer".

Dr. Willard Parker,[5] one of New York's greatest surgeons and a wise physician, nearly 40 years ago, after treating cancer of the breast for 50 years, spoke very strongly thus: "Cancer is to a great degree one of the final results of a long-continued error in diet, and a strict dietetic regimen is therefore a chief factor in treatment, preventative and curative". After speaking of the surgical removal of a cancerous breast, he says: "We must then adopt the

[1] Bulkley, New York Medical Journal, July 20, 1921.
[2] Abernethy, "Surgical Observation in Tumors," London 1816, p. 211.

[1] Walshe: "Anatomy, Physiology, Pathology and Treatment of Cancer," in Boston 1844.
[2] Cooper: Lectures on Surgery, Boston, 1825.
[3] Bennett: On Cancerous and Cancroid Growths, Edinburgh, 1849, p. 205.
[4] Paget: Lectures on General Pathology, Philadelphia, 1854, p. 632.
[5] Parker: Cancer, Study of 397 Cases, etc., New York, 1885.

means stated above to prevent a second development. We must change the diathesis, we must seek to modify the patient's constitution, so that it will no longer be prone to reproduce the disease; and then only may the surgeon be satisfied that he has done his duty".

During all this period and to the present time, very many others have promulgated the same views, with more or less earnestness and persistency.

Sir Arbuthnot Lane, a few years ago, emphasized the fact strongly that cancer can be one of the terminal results of intestinal stasis.

Dr. Robert Bell,[1] of London, who for fifteen years had been operating much on cancer, in the Glascow Hospital for Women, impressed by his own failures and those of others to cure cancer by the knife, abandoned surgery in 1894 and, since then, has written several intelligent and clever books on the constitutional origin and treatment of cancer. These have never been taken seriously enough by the medical profession, although they contain a great amount of good common sense as well as scientific knowledge. But, the twenty-seven years in which he has reported case after case, often of inoperable carcinoma, well for years after solely dietetic, hygienic, and medicinal treatment, should count for a good deal.

Dr. Forbes Ross,[2] also of England, wrote very strongly on the constitutional nature of cancer, giving illustrative cases, and his untimely death, soon after the publication of his book, robbed the profession of an earnest and intelligent worker in this cause. Having been a very active surgical operator on cancer for some years, and seeing the unfortunate results of operation, he took up the study of the blood and wrote much on the nuclear relations of the leucocytes and erythrocytes in health and disease, and their appearance in different forms of cancer. He also studied the chemistry of the blood and cancerous tissue. After "ten years of constant miscroscopic, clinical, and surgical research" he records his belief that "cancer is due to want of balance in particular mineral salts in the body, and that the disturbances of this balance leads to the disorderly and malignant growth of epithelial cells, (epiblastic and hypoblastic) which is professionally known as cancer or carcinoma....It may be that the other form of cancer, known professionally as sarcoma, or malignant disease of the mesoblastic tissues, is also referable to the disturbance of balance of other mineral salts of the body, or a combination of such salts". He quotes Sir Jonathan Hutchinson as regarding carcinoma and sarcoma as "identical manifestations in different tissues" and later he comments on the fact that sarcoma, or cancer of the mesoblastic tissues, for the most part confines itself to infancy, childhood and adult young life, the period when disturbances of nutrition arise as a result of the deficiency of one or another of the earthy salts, calcium or magnesium". He is a very great advocate of potassium salts in carcinoma, reporting remarkable cases of advanced cancer cured.

Dr. John B. Murphy,[1] of Chicago, repeatedly expressed himself in his clinics most pessimistically in regard to the ultimate results of the surgical treatment of cancer; this was especially emphasized in regard to those patients who are fat and have lax tissues; that is, those exhibiting imperfect metabolism.

Dr. Wm. J. Mayo[2] is the latest and, unconsciously, perhaps the most important supporter of the constitutional nature of carcinoma. In his President's Address before the American Surgical Association, he spoke in a manner that should provoke serious attention, for few have had wider acquaintance with the surgical aspects of the disease than he. Speaking of the prophylaxis of cancer, he says: "Cancer of the stomach forms nearly one-third of all the cancers of the human body. So far as I know, this is not true of the lower animals nor of uncivilized man....Is it not possible, therefore, that there is something in the habits of civilized man, in the cooking or other preparation of his food which acts to produce the precancerous condition?....Within the last hundred years, four times as much meat has been taken as before that time. If flesh foods are not fully broken up, decomposition results and active poisons are thrown into an organ not intended for their reception and which has not had time to adapt itself to the new function". In conclusion, he said: "When cancer in the human is frequent, a close study of the habits of civilized man, as contrasted with primitive races and animals, where similar lesions are conspicuously rare, may be of value, and finally the prophylaxis of cancer depends first on a change of those cancer producing habits, and second, on the early removal of all precancerous tissue and sources of irritation".

### "The Proper Study of Mankind Is Man"

Hosts of lesser lights from literature and personal correspondence could be brought forward to further illumine this subject, which

[1] Bell, Cancer, Its Cause and Treatment without Operation, London, 1913.
[2] Ross, Cancer, the Problem of Its Genesis and Treatment, London, 1913, p. 95.

[1] Murphy Clinics, August, 1912, to June, 1914.
[2] Mayo, Annals of Surgery, 1914, LIX, p. 805.

still seems dark to so many, but I cannot conceive how it has happened that those headlights quoted should have been so long overlooked! Nor can I understand why the world has followed the leadings of theoretical laboratory workers, with studies on rats, mice, and guinea pigs, and has neglected the great studies which have been made on mankind. The glamor of surgery has blinded the eyes of the profession, and the eye-strain of the microscope has dimmed the vision of the laboratory workers, so that they could not be far-sighted enough to realize that the proper study of mankind is man. In regard to no other disease has there been such an exaggerated, unreasonable and insistent demand for laboratory proof as in cancer, and all acknowledge that no cause has been found. The craze for biopsy proof has undoubtedly cost many precious lives.

The only comment I have to make on the material quoted is on that of Abernethy who says that "it is *after* an operation that we are most particularly incited to regulate the constitution, lest the disease should be revived or renewed by its disturbance". I would strongly emphasize the fact that it is most important that this should be done *before* an operation, which would often then become unnecessary and unwise. For, with exactly the proper study, care and treatment, faithfully carried out for a sufficient time, primary cancer yields in a most satisfactory manner, and all clinical evidence of the disease disappears. And, what is best, it is not "revived or renewed" as long as the constitutional cause remains absent, which will be indefinitely, if care is taken—as experience has fully proved. Many cases have been traced, five, ten and twenty years after beginning treatment, and two well over 27 years.

### "Intelligence of Cells"

One can understand the *rationale* of all this, in the light of the "intelligence of cells", as shown so scientifically and convincingly by Quevli[1] and as developed in a recent article by the present writer,[2] on "Cancer a Mutiny of Body Cells." [Abstr. in CLIN. MED., March, '22, p. 229.—ED.] In this article, the departure of normal, healthy cells in various parts of the body was likened to soldiers in a regiment, where conditions of life had become intolerable as to nourishment, hygiene, clothing, etc. The body cells, which have been acting functionally in various organs or parts of the body, and which are formed from the same protoplasm as the brain and nerve cells, are shown to be as intelligent as the brain cells. Being wrongly nourished and cared for, or injured in some way, the cells like the soldiers depart from their former allegiance and take on a mutinuous or riotous action. The cells renounce their obedience to physiological laws, and, no longer functioning as secreting cells of milk, gastric juice, bile, urine, etc., still have the power of reproduction, and so, continuing to grow only, form a useless and ultimately a harmful mass.

That cells of the body and plants understand each other and work together, is clearly shown by Quevli, and metastases and recurrences are readily explained by their action as they find themselves under continued unbearable conditions. The local occurrence of local lesions is understood to be from local irritative causes exciting particular cells to rebellion, as a small spark suffices to start a great fire in combustible material. A biopsy or surgical operation may suffice as such.

Not to theorize too much, we must acknowledge that the actual cause of the particular malignant action called cancer is still not demonstrated, but the long experience of many has shown that certain disordered conditions of metabolism, caused by erroneous diet and wrong action of internal organs (including the endocrinous glands) certainly do excite wrong action in certain cells, just as similar though different conditions result in inflammatory action, as in gout, etc., without recognized local causes.

Time does not permit of further elaboration of the subject, nor of entering largely into the means of reaching and rectifying these metabolic errors, which have been developed elsewhere. Suffice to say that, when an ideal condition of the blood is secured by the most careful and prolonged attention to dietary, hygienic, and medicinal measures, the rebellious and rampant cells of cancer can, and often do, return to their normal condition and function as certainly as the extravasated cells of bone callus, pneumonia, gout, etc., return to their normal state.

From all that has been said, we must conclude therefore, that, though the present status of the cancer problem is still uncertain in the minds of some, the great preponderance of evidence is against the view that cancer is a local disease, and is in favor of a systemic or constitutional nature or condition, to which the name carcinosis is applicable.

[1] Quevli, Nils, "Cell Intelligence," etc., Colwell Press, Minneapolis, 1917.
[2] Bulkley, *Medical Record*, October 1, 1921.

# Mr. Gon O. Coccus

## A story that will tell you about his life.

By J. HENRY DOWD, M.D., Buffalo, New York

Genito-Urinary Surgeon, Sister of Charity, Mercy and Contagious Hospitals; Consulting G-U Surgeon, Emergency Hospital, etc., etc.

### Gon O. Coccus Speaks

ALTHOUGH I have always been considered a social outcast, having chosen the dark for the carrying on of my vocation, even the most skeptical will scarcely deny that I have been most democratic in my dealings with mankind. And one other factor must be considered as an asset in my career. Think of the way I have kept money in circulation; have not men grown rich as a result of my endeavors?

Kings, queens, even ordinary people feel proud of their ancestors; many can trace them back for centuries; but mine, well, I cannot say exactly when my species first originated, but, of one thing I am quite sure, it is as old as the human race, if it does not antedate it.

Of one thing we can be quite positive; the Jews knew all about us, for, according to Leviticus, 15th chapter, the Lord said unto Moses and Aaron, "Speak unto the children of Israel and say unto them, 'When a man has a running issue out of his flesh, because of this issue, he is unclean'".

Although this admonition was given thousands of years ago, it is very evident that those early Jews were as wise as some of the men today; for, at that time, Moses instituted and carried out as far as possible (at least to hold us in check) methods aimed at our extermination; he issued both police and sanitary regulations to curtail our migration.

In my declining years— No, I cannot put it that way, for, if given half a chance, I am as robust about my work as ever. Yet, I feel that I can be slightly egotistical, for, although Moses and many of his followers were shrewd men, as to my identity I fooled them, until the year 1879 when a fellow named Neisser corralled me and my fellows and gave us a name—gonococcus.

I can scarcely blame the men of old; Moses had no microscope, and I am painfully small; have no head, arms or legs, but two bodies; they say I resemble the coffee bean.

Then, another peculiarity I have, if you can call it such: Although I draw no lines of color, creed or location, I am not a long liver, unless transplanted frequently. I suppose that my ancestors originated the idea, for, in every case where I can be isolated, either accidentally or through invitation, I find that I have to be accompanied by associates; some one has christened my accomplices as cocci also—streptococci or staphylococci, and you will always find them where I am or have been.

Probably not without justification, I have been accused of being able to do great damage during my existence, even though I am short lived, as I have said before. But, believing as I do in carrying out my mission faithfully, when I pass to the great beyond, I leave my former associates behind me; most tenacious little brutes, and I am told that they can, and do, accomplish as much damage as ever I could.

However, why argue? Some doctor will certainly read this and think that it is only jealousy on my part.

Very few know exactly how Mr. Gon O. Coccus establishes his new homes, even though these are but temporary in many cases.

I choose, if possible, virgin soil; and it must be located, if possible, in close proximity to moving blood. On being deposited, I am generally propelled by force and at once commence burrowing downwards; three layers of epithelium, the subepithelial tissue and the first layer of the mucous membrane must be penetrated before I reach the papillary, or the layer containing the blood vessels, the spot I choose for a new home. Never having believed in race suicide, I at once start the rearing of a family, not singly, twins or even triplets; but, well, I suppose some would say that there are a million on each occasion (how often this takes place, I cannot say); anyway, shortly we are in evidence sufficient to extend our domain.

It usually takes some three or four days before we are strong enough to attract attention; after this, though, it is a fight to the finish with our host.

White bodies, known as blood cells, make their appearance in hordes and, although we put up a masterful fight, many of us are engulfed in their meshes. But we kill them and they gravitate to the surface and are

thrown off. These take the names of pus cells.

It is true, we cause practically the same symptoms in all (males), but no one can accuse us of yielding to any but the oldest pathy. We have no muscles for kneading, no spine to adjust. The symptoms we produce may be more clearly stated by another.

**Symptoms of Gonococcus Infection**

For a positive proof of gonorrheal infection (and it must be a rule in all cases that may reach a court of record), the microscope must be used. However, the following indications are almost pathogonomic and, in at least 95 percent of cases, are an index sufficient to pronounce the case as infectious and gonorrheal:

Redness at the meatus, not a dull congestion, but a true inflammation. Lips swollen and emitting a secretion, thin at the very start but which soon becomes thick, of a yellowish white. Smarting as urine passes is always present; of course, more intensified in certain individuals. The first urine gradually becomes opaque, until (in almost a week) it is very thick with pus. Gradually, the second urine takes on an opacity (the posterior urethra is always involved in gonorrhea), until at times it is as dense as the first.

One complication, if such it may be called, is chordee; it is always present in gonorrhea and not very frequently in simple exacerbations.

Gonorrhea in the female takes on a very different aspect, owing to female anatomy and the Dœderlein bacteria of the vagina which act on the gonococci in a cannibalistic manner.

Women cannot have erections with pain; all females have more or less discharge ("leucorrhea") constantly, and, unless the infection involves the urethra (which is rare), there is no pain on urinating. The fact is, a woman rarely knows that she is infected, unless she is accused of infecting another or seeks medical aid for pain in the pelvic region, usually the left ovarian region. It is rarely that the gonococcus can be found in the female, even though it is known that infection positively exists. Still, the gonococci do leave a trace of their entrance behind, which the careful observer will find at the cervix.

Ninety-five percent of infections in women take place at the cervix, but, the moment the cocci make their appearance outside the external os, they are destroyed promptly by the aforesaid bacteria. Therefore, they bury themselves deeply in the cervical glands, and, if they are found, a curetment is usually necessary. It is at the cervix, the avenue of entrance, that the most positive early indications of their presence will be shown.

An inflammatory zone of angry appearance, covered with a thin layer of pus, in the absence of tears or a history of abortions, is almost positive indication of gonorrheal infection, especially if this is in the virgin.

**A Case History**

That a woman should not be too severely chastised when she denies gonorrheal infection, may be shown by the following briefly reported case:

J. S.—Seen in consultation for a very severe gonorrheal arthritis that had existed for six or seven weeks. History: Illicit intercourse; waited 4 days and, as there was no evidence of discharge, cohabited with his wife who was pregnant about two months. On the fifth day, ardor urinæ, discharge and well-marked evidence of gonorrhea. The arthritis quickly mended itself, and in three weeks he was perfectly well again; the urine was free of pus, and massage of the prostate brought no pus or inflammatory evidences. He now resumed sexual relations with his wife, until the birth of the baby some time later. Strange as it may seem, the baby was born with gonorrheal conjunctivitis, and it was only with the greatest care that the eyes were saved. Being perfectly well himself, and since there was no apparent evidence of the disease in his wife (she had been treated), he resumed relations with her six weeks after the birth of the baby. On the fourth day, he noticed discharge, which proved to contain gonococci; he also had a return of the arthritis.

But one thing could have happened in that case: The wife was infected by the husband before he noticed the discharge; the gonococci became deeply imbedded in the glands of the cervix and uterine tissue and were set into activity by the birth of the child.

Let us take a case where neither child nor husband is infected, but the wife has pelvic trouble that can be traced only to marital relations.

Gonorrhea is a mixed infection due to the gonococci, accompanied always by staphylo- or streptococci. Gonococci are organisms that, except in isolated cases, are born, do all the damage they can for a certain time, and die out in the individual they attack. In other words, their lease on life is limited, no one knows positively how long. It may be suggested that eight weeks in the male is the end of their procreative period. What of the others? The arch criminal is put to death, but he leaves behind his associates to keep society in a state of anticipation as to what he can do.

### The Woman Pays

The young unmarried man contracts gonorrhea; is treated, and all discharge ceases; the urine may even be clear; he thinks he is well and marries.

Sooner or later, in a goodly number of cases, the young wife complains that she is menstruating a day or more in excess of premarriage conditions, the flow is accompanied by pain, which she never experienced before; in the interim, she may complain of more or less pain situated in the lower abdominal region (left side); leucorrhea (as she terms it) is increased.

Such is the history of cases too numerous to mention and, instead of improving, she becomes progressively worse, until she must seek relief. Possibly it is only a curetment, but in the great number of cases it is a laparotomy that is called for; tubes, possibly ovaries, must come out; the life of a neurotic is at hand. Of course, gonococci will not be found, but strepto- or staphylococci are always in evidence, unless the pus has become sterile. Eliminating miscarriage or infections at labor, the infecting bacteria reached the cervix at the time of intercourse; they were received from the male.

The husband will give a history of having had a gonorrhea and, although the gonococci had long ceased to live, their associates were still present in shreds or in pus from the prostatic sinuses.

Fully 99 percent of patients with urethral discharge seek advice in the early stage, and much surprise will be manifested; for, every case is not of recent gonorrheal infection (microscope supposed to be used); many are merely exacerbations and are due to the same cause that produced the inflammatory reaction in the case cited above. All these patients, however, will give a history of a former attack. These are the cases that recover in a few days (four or five) and through which many doctors get false reputations.

It is said that there are three kinds of liars: liars, d— liars and statistics; but, from a close observation of many years, the following figures are quite dependable:

About 85 percent of inflammatory troubles in the female genitalia; 40 to 45 percent of all operations on those organs; 30 percent of sterile marriages and 20 percent of blindness (before the day of Crédé' method) are due to infection received at the time of sexual intercourse. These statistics are appalling, yet I can confidently assert that gonorrhea was practically born with the human race; it may be held in check to a decided degree, but it will never be wiped out as long as human beings inhabit the earth.

If fully 99 percent of patients consult a physician for advice at the very outset, it behooves us, as the greatest agents on earth for the prevention of disease, to render these people noninfectious; cutting the statistics cited to the very core.

### Treatment of Gonorrhea

Previous to about twenty years ago, very little attention was given to the care or treatment of gonorrhea, and, although I have not kept an accurate account, since that time about 600 different methods of treatment have come into vogue. It is supposed that the investigators and writers did not work on Sundays and holidays.

Rosy reports are handed us of drugs that penetrate the different layers of the tissues and reach the cocci in their trenches (armor plate would be no bar!); give them no quarter, simply kill them without warning, no mercy is shown. But, with it all, patients report day after day, week after week, and even run into months with the same statement, "Still a little discharge in the morning".

The treatment for gonorrhea, which I am about to outline, will not be found among the 600. In fact, as to the remedies used, they were probably known to Galen.

Gonorrhea is purely a local disease and must be treated locally, excepting as far as remedies may be of value in aiding in tone to the membranes in a general tonic effect. To throw off or, rather, assist in promoting resolution, the mucous membranes should be in as nearly a normal state of tone as it is possible to have them.

Two methods seem not only scientific but feasible: Urinary antiseptics and diuretics internally and injections of astringents locally; but they must be used in a scientific manner.

The physiological action of astringents is, to contract living tissue, but this tissue must be in a relaxed condition. In other words, the inflammatory tissue upon which the drug is to act must be in a subnormal or chronic state of inflammation, a state in which the muscular walls of the vessels are relaxed. This is stated in any therapeutic textbook and there is no doubt of its truth, as is shown every day. Astringents produce irritation when used on acutely inflamed tissue.

It is quite impossible to state when the urethral mucous membrane is in a state of

relaxation; but, from close observation and judging to a great extent from symptoms, this occurs on about the thirteenth to fifteenth day. This statement will also apply to diuretics, especially the stimulating variety, the ones generally advised.

### The Author's Method

Being guided by these considerations, the following is my treatment of a case of acute gonorrhea:

A jock-strap is advised to be worn constantly; on the third day, the penis is painted with tincture of iodine which greatly assists in the prevention of chordee, and again on the tenth day, if necessary. No alcohol is permitted; tobacco in moderation; red meat, lobsters, rhubarb and irritating foods generally are avoided.

A urinary antiseptic is given for internal treatment. For some years, I have used uriseptin which meets all indications and is cheap: two teaspoonfuls in a half a glass of water, three times a day. This will relieve the ardor urinæ to a great degree, but will have but little effect on the discharge.

About the thirteenth to fifteenth day, the following astringent is given, to be used three times a day:

| | |
|---|---|
| ℞ Zinc sulph. | 20 grs. |
| Alum powder | 25 grs. |
| Atropin. sulph. | 1 gr. |
| Water to make | 8 ozs. |

Oil of sandalwood, 8 drops in a capsule or on sugar, three times a day, is to be used for about ten days.

In about 90 percent of all cases, the discharge will have practically ceased after the third injection; there will be only a slight discharge in the morning about the third. At the end of a week, the discharge, if not entirely absent, will be very thin; only appearing in the morning; the first urine will be almost clear but contain a great many shreds (showing that the inflammatory process is becoming localized), the second urine will be clear.

At the end of a week to eight days, the following should be substituted:

| | |
|---|---|
| ℞ Zinc sulph. | 25 grs. |
| Alum powd. | 30 grs. |
| Atropin. sulph. | 1 gr. |
| Water to make | 8 ozs. |

This injection should be continued until there is no more discharge and the urine is perfectly clear unless the time is protracted beyond reason, say ten days.

If this happens, which is rare, complications should be looked for. If anemia, iron; if the resisting power is low (as is shown by the phosphatic index) bring this to normal.

Although this routine treatment is given for all cases, there may be those that will necessitate some variations. However, as I have stated in my work on "Chronic and Specific Urethritis", many cases are protracted, made decidedly worse, by too much interference.

After thirty years of personal treatment of thousands of cases (U. S. M. H. furnished a large clinic when I was in that service) I might claim the following results:

1. In 90 percent of cases, every little inconvenience is experienced during the ordeal, and about the same percentage of patients should have no complications, except possibly a slight chordee, if that can be called a complication.

2. If complications (as, posterior urethral involvement) become distressing, a slight sedative may be used. But, positively no instrumental interference or deep injections should be practiced; 90 percent of the patients will recover if left alone.

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# The Electric Iodine Vaporizer *

## An Apparatus for the Production of Definite Amounts of Iodine Vapor

EDWIN W. HIRSCH, M.D., Chicago, Illinois

IODINE Vapor has been used for more than a hundred years in treating various affections; but, due to the difficulty in producing a definite amount of the iodine vapor and because of the cumbersome apparatuses employed, its use has never become universally popular. Iodine vapor is usually generated by heating iodoform or iodine crystals in a closed vessel, by means of an alcohol lamp, with the result that a large quantity of dense vapors is produced and it is difficult to apply them to a small area because of the toxicity of such large amounts. With the electric iodine vaporizer, the procedure is made most simple, the amount of heat applied can be definitely controlled; very minute quantities can be applied; it can

* For description of this apparatus, see the article on page 618.

be used in cavities as well as for surface work, and in no case is it necessary to soil the hands.

A considerable amount of the work with iodine vapor has been done by French workers. Berton suggested the use of the vapor in pulmonary tuberculosis. Baudelocque tried the method at the Sick-Children's Hospital, but gave it up because of the irritating action. Piorry and Chartroule made use of iodine vapor in the form of cigarettes. In 1888, Deslie, of Ypres, recommended the insufflation of iodine vapors obtained by the decomposition of iodoform under the action of heat, in the treatment of chronic otitis. P. Harmonic, of Paris, succeeded in curing gonorrhea, rebellious to every method of treatment, by insufflation into the urethral canal of iodine vapors. In 1889, at the fifth International Congress of Otology and Laryngology, Lœwenberg recommended the insufflation of iodine vapors and air in the treatment of auricular sclerosis. F. Topai, surgeon in the hospitals of Rome, obtained excellent results in the treatment of local tuberculosis, such as cold abscesses, fistulas, adenitis, osteoperiostitis, by iodine vapors in the nascent state which were given off at the site of the diseased tissue by a mixture of oxygenated water and a solution of 2-percent potassium iodide. In recent years, Jugengel, Surgeon of the Bamberg Hospital, and Longe, Surgeon of the hospitals of Marseilles, took up this experimental work and devised a technic for the production of iodine vapors and for various applications, which were used by Kœnig, Laurens, and Raillard in Oto-Rhino-Laryngology, by Reynes, Daniels and Buges in gynecology and by Moiroud in venereal diseases. Farnarier has obtained some excellent results in treating difficult cases of cystitis.

### Iodine Vapors in Cystitis

Iodine vapor has a definite field of usage and, when used judiciously, with the proper technic and dosage, excellent results may be obtained. Baradulin, using Farnarier's method, treated five cases of tuberculosis of the bladder, with good results. The capacity of the bladder is first tested by injecting tepid boiled water into the bladder. This determination is necessary; for, when the vapor is introduced, it is essential that no more air be put into the bladder than its determined capacity. The vapor is put into the bladder by means of a catheter and is allowed to remain in the organ for five minutes. Barabulin reports one case of acute postgonorrheal cystitis, cured with seven insufflations given at intervals of four to five days. Another case, resistant to treatment for 1½ years, improved rapidly after *enfumage*. The bladder was so irritable, at first, that morphine had to be given; but, owing to the treatment, the bladder capacity increased from 5 to 100 Cc. Cystoscopy was rendered possible by this improvement and it revealed for the first time that the primary trouble was a tuberculous kidney, thus pointing the way to radical treatment.

Iodine vapor is not to be used in the treatment of pulmonary tuberculosis. Luckhard and Koch have shown that the concentrated vapors are irritating to the pulmonary tissue.

In venereal work, Petges, Gratiot and Cattu, have used iodine in treating chancroids. The pus and débris are first removed, the vapor being applied every other day until recovery. Iodoform powder is dusted over the lesion. The surrounding area is also made sterile. The advantage is, that there is no pain and no undue scarring, such as occur when strong caustics are used. The process is hastened and the duration of the process is halved. By means of a special elongated tube, the vapor is easily applied to the cervix, with the advantage over the tincture that none drips down in the vagina. The vapor has great penetrating action.

### In Ear, Nose, Throat

Iodine vapors have been used with success in certain nose, ear, and throat affection but the difficulty of applying small amounts has not greatly encouraged the use of this medication. By means of a small pump, I have been able to insufflate approximately 0.000013 Gm. of iodine vapor and this small quantity is definitely perceptible to the nasal and oral mucous membranes.

The following chart gives approximate determination of definite quantities of iodine vapor given off with each pump.

*Lamp Heated 5 Minutes*

| Mark on Pump | Air Capacity | Iodine Vapor Given Off in 5 Pumps | Estimated Amount Given Off in 1 Pump |
|---|---|---|---|
| | | Maximal & Minimal Amounts | Maximal & Minimal Amounts |
| 20 | 8.6 Cc. | .000409 Gm. | .00008 Gm. |
| 15 | 7.1 Cc. | .000300 Gm. | .00006 Gm. |
| 10 | 4.9 Cc. | .000252 Gm. | .00005 Gm. |
| 5 | 3. Cc. | .000378 Gm. | .000075 Gm. |
| | | .000157 Gm. | .000031 Gm. |
| | | .000189 Gm. | .000038 Gm. |
| | | .000092 Gm. | .000019 Gm. |
| | | .000069 Gm. | .000013 Gm. |

Ringer states that the tincture of iodine may be used with signal benefit in those who suffer with itching of the nose, of the inner canthus of one or both eyes, sneezing, running at the

nose, of a watery fluid, weeping of the eyes, and severe frontal headaches. These people may suffer for years, and iodine inhaled often relieves the affection at once, lessening the headache and discharge from the nostrils. Its effect is most marked in respect to the itching.

S. Abel used nascent iodine in treating diphtheria carriers and the results obtained on 89 patients who had bacilli more than 3 weeks are as follows: Cured after one treatment, 42; after two treatments, 28; after three treatments, 17; while two remained positive.

Iodine fumes may be used with success in sterilizing fresh wounds, deep or shallow fistulas and ulcers. Capell and Rommell found this method superior to the usual mode of treatment because the iodine in the finely divided state did not irritate the nerves and, so, did not cause a contraction of the tissue. This factor is extremely important in penetrating wounds because, when irritating medicaments are applied, they cause the tissue to contract and the deeper part of the recess is not affected. Besides, the iodine is rapidly absorbed and eliminated.

### The Apparatus*

The apparatus consists of a stand with an electric bulb, a glass hood in which the iodine vapors are contained, various applicators depending on the size and location of the surface to be treated, and a pressure pump or bulb. The technic necessary to use the vaporizer is very simple. The lamp is lit for a period varying from three to five minutes. The iodine, when heated for five minutes, has somewhat greater activity because of the added heat of the molecules. Three minutes of heating will suffice for all ordinary purposes. One of the glass-applicator tubes is attached at the outlet and the hood is removed from the lamp. Pressure is then applied to the bulb and the iodine vapor will be seen to be emitted from the end of the applicator tube if it is held up against a piece of white paper. For nose, ear, or throat work, or wherever a minimal amount is desired, the bulb should be detached and the small one-way-pressure pump should be attached.

The power of iodine vapor cannot be appreciated by its appearance; for, although it may appear that practically no vapor is coming over, one can readily convince himself to the contrary by putting the tip of the applicator tube to his nose. So, in order that the operator may have a fair conception of the potency of iodine vapor, it is suggested that he apply the small pressure pump, fixed at the 10 gauge, to his nose, or the bulb may be used with just a slight touch of pressure. For all ordinary work, the usual glass applicator tubes are all that is necessary. For special work, variously shaped tubes may be had. The iodine is inserted at N and a few Grams last for hundreds of applications.

The great advantage of the electric iodine vaporizer over all other apparatuses of this kind lies in the simplicity of its construction and design. Every stage in the production of the vapor can be seen. The more heat is applied, the more finely divided the particles become; the appearance of the light reddish violet tint in the chamber means that the iodine molecules are very small and have great chemical affinity. Because of the small size and neatness of the electric iodine vaporizer, you can see exactly what you are doing.

If you wish to know the approximate amount you are applying, all that is necessary is, to apply the small-gauged pump. Infinitesimal amounts may be applied in this manner. Since, when the electric iodine vaporizer is used, it is separated from the heat lamp, the operator may wield the apparatus in any position. This is a great advantage over the bulky apparatuses used in the past. The hands of the operator are not soiled in handling the electric iodine vaporizer.

Iodine vapor has a field of usefulness in ear, nose and throat affections; in surgery, it is used for cleansing wounds and healing ulcers and fistulas; in gynecology, for endocervicitis; in genitourinary affections, for chancroids and chronic cystitis. Other uses of iodine vapor will be developed as soon as the apparatus is put into general use; for, iodine has stood the test of time and is today one of our very valuable drugs. Its efficiency is increased in vapor form, because the affinity of the drug is great and the dose small.

I wish to express my thanks to Mr. James Shakman, B. S., in Chem E. for the quantitation iodine determination, and to Dr. Eugene F. Carey for his valuable suggestions.

* This apparatus is illustrated on p. 618 of this issue of CLINICAL MEDICINE.—ED.

# The Use of Normal Salt Solution in the Treatment of Constipation

By THOS. J. BEASLEY, M.D., Indianapolis, Indiana

TO WRITE upon the subject of constipation, removes me far from the field (tuberculosis) in which I am accustomed to think and work, but no physician can be engaged in the practice of medicine in any one of its many branches without being impressed by the extreme prevalence of constipation, and also by the far reaching and baneful effects it has upon the general health.

He who treats tuberculosis, as well as all other physicians, must encounter constipation as a complicating factor in their work. Therefore, it becomes allowable for one engaged in this department of medicine to write upon this subject.

There are many drugs that act as laxatives, purges and physics, but in my experience none of these, nor combinations of them, can cure constipation.

Hughson[1] has found that the administration of 1 Gm. (15½ grs.) of sodium chloride, in the form of enteric-coated tablets, giving two or three tablets each five minutes with as small an amount of water as possible, up to a total of eight or ten tablets, would relieve practically all of the milder forms of headache. In the more severe forms of headache, he gives even more than the number mentioned, and states that the administration of as much as 30 Gm. (nearly 1 ounce) of sodium chloride is wholly safe in a healthy adult, and far beneath the toxic limit.

Hughson's use of sodium chloride deals only with its administration for the relief of headache. Since a very large percentage of headaches are attributable to the toxemia of constipation, I wish to offer the suggestion for the further use of this simple and harmless remedy as an agent in the treatment and cure of constipation; as a consequence of its use in this connection, one of the greatest causes of headaches (intestinal toxemia) is removed. In the relief and cure of constipation, with its associated toxic states, we save, in a measure, these patients (who suffer from chronic and prolonged toxemia) from the resultant consequences that, later on in life, exact such heavy toll in the form of premature dissolution manifesting itself as arteriosclerosis, nephritis, apoplexies, and similar conditions.

### Constipation Cured by Salt

During the last three years, I have administered sodium chloride in the treatment of constipation, and have found that it cures nearly all cases which are due to intestinal stasis. With recovery from the constipation, toxic headaches disappear and, as is to be expected, there is always a marked improvement in the general health.

The method of use is as follows: Patients are instructed to drink one quart of lukewarm normal-salt solution the first thing upon rising each morning. There should be at least an interval of one-half to three-quarters of an hour between the drinking of the salt solution and breakfast. It is to be supposed that the patient will exercise in the meantime, dressing, making his toilet, etc.

I am aware that the use of salt water in this manner is probably as old as man himself, but I wish to call attention to certain physiological and physical factors which enter into its action. A normal stomach should complete its digestion of a meal in approximately three hours. In the morning, the stomach would therefore be empty and in a state of partial collapse and at rest. The ingestion of a quart of warm normal-salt solution promptly distends the stomach, and this distention brings on frequent and powerful peristaltic waves; as a result, the solution is soon emptied into the duodenum. This being empty, at rest and partially collapsed, the same effect is had when the stomach empties the saline solution into it. Hence, the mere volume or amount of the saline solution ingested incites a pronounced peristalsis which forces the solution rapidly through the entire intestinal canal. The physiological action of the saline solution is a stimulant to the mucosa of the gastrointestinal tract. Its stimulant properties increase the intestinal secretions, and it further acts as a solvent upon the intestinal contents.

### The Time Factor

It is at once recognized from the foregoing that the time at which the solution is taken is important. And, not second to this, but just as important, is the amount taken, as it has been observed that less than a quart does not pro-

[1] Hughson: A Method for the Administration of Sodium Chlorid in the Treatment of Headache. *Jour. A. M. A.*, Dec. 10, 1921.

duce sufficient peristalsis to accomplish the desired purpose. There remain other factors which the patient must comply with to assure success, and one is that he must at once obey the first impulse to go to the toilet. Failure to do this, seems to cause a back-flow which distributes the solution along the intestinal canal to such an extent that the impulse for the bowels to move subsides, and perhaps more harm than good is done. By liquifying the intestinal contents, absorption is favored. Hence, the importance of emphasizing this point. The first bowel movement is had by most patients before breakfast time. Taking breakfast, usually causes a second impulse for the bowels to move and, at this operation, most, if not all, of the solution is passed, leaving an intestinal canal which has been lavaged throughout its entire course.

Some patients object to taking this amount of salt water, but are encouraged to continue its use. In a short time, nearly all patients will establish tolerance and be able to take the solution without any difficulty. It has been found that flavoring the solution with any flavoring extract that may be at hand helps patients who do not tolerate the solution well.

The taking of the saline solution should be continued with strict regularity for many weeks, as most of these cases are of long standing, and are complicated by colitis, spasticity, etc., and it takes much time to overcome these complications. It can at once be seen that this method will force the patient to become regular in his habits of going to the stool at a certain time each day. Every victim of chronic constipation, who suffered from headache, and who has been placed on this form of treatment, has been relieved of his headache, or toxic attacks.

After the discontinuance of the treatment, patients are advised to adhere rigidly to the habit of regularity which they have established. Patients who have followed this method have gone from one to two years, and report continued freedom from constipation.

It is important to note that this procedure would not be applicable in the presence of nephritis or, if used in the nephritic patient, it would be prudent that frequent urinalyses be made in order to determine that no harmful effect was being had upon the kidneys.

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# Ischiorectal Abscess

By CHARLES J. DRUECK, M.D., Chicago, Illinois
Professor of Rectal Diseases, Post-Graduate Medical School & Hospital.

ALL perirectal abscesses are called ischiorectal by some authors, but Etchepare (Tuttle) has found that less than 18 percent are situated in the ischiorectal fossa. These abscesses develop outside of the rectum and beneath the skin and fasciæ. They may be single or multiple, they may (and usually do) connect behind the rectum, through the space between the levator ani and the sphincter muscles. Even when they develop on one side of the rectum and open spontaneously or if they have existed several days, a second abscess frequently develops on the opposite side. The fossæ in which these abscesses develop are filled with fat and, as the pus fills the spaces, the fat is displaced. However, the connective-tissue reticulum remains, and the abscess is honeycombed in form instead of being one large abscess. It is essential in operating to break down these pockets, as otherwise the pus contained in them will burrow and infect new areas. There seems to be no limit to where these abscesses may travel. Frequently an abscess occurring on one side will burrow to the opposite, usually behind the rectum, and form a horseshoe or dumb-bell-shaped cavity, which gives the abscess its name. Infection may also be carried up through the fossæ on both sides and two abscesses then develop from the one source. This process usually goes on faster on one side than the other, so that one abscess may appear several days before the other. Such abscesses may not communicate with each other.

### Etiology

Ischiorectal abscesses always result from an infection due to one or more of the following causes; namely: Injuries by foreign bodies, either through the rectal wall or through the tissues of the buttock; ulceration or perforation of the rectum; fissure or wound of the anus; very frequently, some minor operation about these parts.

Through the loss of perirectal fat, emaciation following a protracted illness predisposes the rectum to trauma from within, and likewise lowers the vitality of the tissues.

Fistulas and strictures are followed by ab-

scesses; also squeezing superficial furuncles (probably by forcing pus into the surrounding tissues) and sometimes kicks or bruises may be the cause. Where an abscess has existed for several days prior to evacuation, a certain amount of adenitis necessarily develops in the surrounding lymph glands, which subsequently may give rise to another abscess.

Microorganisms in these glands may remain virulent indefinitely, in illustration of which I will quote a case that was referred to me by Dr. Watts. The patient in question, a woman who was suffering from an abscess and resulting fistula, was operated upon and, so far as she knew, was cured; she continued thus for ten years. At that time, there again appeared an abscess in the same ischial fossa. This abscess had existed for several days when I operated, about a pint of very foul pus and necrotic tissue being evacuated. The patient was treated in the manner explained further down, and she made an uneventful recovery, the wound completely closed. Some eight months later, there developed a third abscess, again in this same location with a similar quantity of pus and débris. This woman has never been pregnant. The uterus is small but in good position, she always has been regular and the sphincters are normal in tone. There is no history of tuberculosis or syphilis. I believe this to be a case of lymphadenitis, although none of the glands are palpable, and I told this patient that she might suffer further recurrences of the trouble.

### Symptoms of Ischiorectal Abscess

As a rule, ischiorectal abscesses develop acutely, with constitutional reaction, which in some cases is very serious; a slight chill is soon followed with headache and high fever, of 104° to 105° F. Locally, there is a vague feeling of soreness within the rectum, which gradually increases to a dull ache and, later, a throbbing pain which increases on defecation. The location of the abscess determines somewhat the severity of the pain. Abscesses situated near the anus, where there is considerable loose, areolar tissue which is easily distended, are much less painful than those situated where the sphincters are firmly bound by muscles and fasciæ. The sphincter is also excited and its spasm increases the pain.

Externally, there may be no signs at all if the infection is deeply seated; if near the surface, however, its presence is evidenced by a red or violet discoloration and by swelling. A finger introduced into the rectum and pressed out and down will usually feel a circumscribed mass of induration or fluctuation. Defecation is extremely painful; dysuria also may occur. In aggravated cases, the swelling, tension, edema and redness about the anus appear erysipelatous, and in that case a microscopical examination of the blood and excretions is necessary to differentiate such an abscess from true erysipelas. Occasionally, in an extreme case, the inflammatory reaction not only surrounds the anus, but involves the scrotum, perineum and thighs.

The pus found in these abscesses as a rule is thick and creamy, unless there has been an extravasation of blood, when it may be brownish, and a clot may be expelled in a lump or as débris. Shreds of necrotic tissue are frequently present in the pus. The odor is foul and gangrenous, even though the abscess does not communicate with the rectum. The gases rushing out, when the abscess is opened, do not come from within the rectum; these gases are the result of bacterial activity within the abscess and the pressure is due to their pentup condition.

When the abscess is opened, either spontaneously or by knife, the constitutional symptoms immediately subside and often will have disappeared within twenty-four hours. Here, however, it must be remembered that, unless drainage of an abscess is complete, another abscess will form and the whole chain of symptoms recur. This is the case quite frequently if all the compartments are not broken down during the operation.

Tuberculous invasion of the ischiorectal fossæ occasions much less suffering. This is the socalled "cold abscess." The pus here is thin, dirty-white in color and often contains cheesy particles. The clinical differentiation of tuberculous from non-tuberculous is not easy and a microscopical examination should be made of the pus, flocculent masses or shreds, and also a culture test should be had in every case.

### The Differential Diagnosis

It must be remembered that hemorrhage into the connective tissue resulting in a hematoma may produce all the symptoms of an abscess. Unless infection occurs, there will be little rise of temperature, and no systemic reaction.

### Treatment

Free incision at the earliest moment is the only proper treatment for these cases. Local applications have been discarded by all surgeons as useless; because, while they do give temporary relief and may retard the progress somewhat, yet, they never abort or prevent suppuration. We must never wait for fluctuation, but drain freely whenever we find well-defined

induration, unless we suspect it to be syphilitic.

A general anesthetic should be administered, so that the whole region may be thoroughly explored.

The incision should be T- or V-shaped across the most prominent part of the swelling to allow for subsequent contraction and retraction without danger of interfering with drainage. Immediately following the first cut, the contents gush out and the sac contracts, the swelling diminishes to one-third, leaving an irregularly circular opening the base of which is formed by the remnant of the sac wall. This presents an important point, so frequently overlooked when making an incision for evacuation of abscesses, that with linear incisions the cut edges fall together in close apposition and readily unite, sealing the cavity; whereas with elliptical or circular excisions they cannot assume a position favorable to such coaptation and, therefore, remain open and drain the cavity. Then healing must take place from the bottom.

The wound should be wide enough to expose the whole field, thus permitting the operator to see what he is doing and allow free and easy drainage. Unless the surface wound be made larger than the widest part of the abscess, pockets are sure to form and the pus go on burrowing. After the abscess is opened, the finger should be introduced and all partitions and bands broken, thus opening all pockets. Currettage is not advised, because the steel spoon affords no knowledge of the condition of the walls, while the educated finger distinguishes necrotic from normal connective tissue. The curette may go beyond and carry infection into healthy parts.

The cavity should be thoroughly irrigated with 1:2000 mercury-bichloride solution. Then, if there is considerable oozing or bleeding, the cavity may be firmly packed and left thus for twelve hours. At the end of that time, the packing (if used) is removed. It is of the utmost importance that the walls of the cavity be kept apart and free drainage allowed. After these initial dressings have been replaced, the patient must be carefully watched and the dressings changed as often as they become soiled. After a few days, when sloughing of the necrotic tissues about the walls has lessened, the wound should be swabbed each day with Balsam of Peru, 20 percent in Castor Oil, to stimulate regeneration. About this time, all external dressings may be discarded.

The freer the exit, the less is the resistance offered to the escape of discharges from the wound; it therefore follows that the outflow should be as unrestricted as possible. But it is obvious that it is of little or no avail to incise freely and make extensive surface openings if external obstructions are placed in the way of free outflow. Above all, it is clearly apparent that drainage cannot be really free if impermeable dressings, such as oil silk, rubber adhesive, etc., are placed over a wound.

When both the ischiorectal fossæ are involved, the surgeon's ingenuity is often taxed, because the posterior connecting tract must be drained. To incise both cavities and also the posterior connecting sinus, would produce an infundibular anus. Hartmann opens the posterior cavity widely and inserts a drain into each lateral pocket.

In a case of my own, I made a curved incision exposing the whole posterior connecting tract, and put a large drainage tube into either side. Although wide undermining and dissection is made of the loose connective tissue, there is little danger of incontinence resulting. The more-frequent complication is, that the resulting scars become so depressed about the anus that fecal matter is frequently lodged in them and is difficult to remove.

### Rupture Into Rectum

Many of these abscesses rupture spontaneously into the rectum and form internal, blind fistulas. Even where the abscess has been opened surgically, it is found clinically that a number of them rupture into the rectum subsequently, but it is not good surgery to make an opening into the bowel because of the dangers of incontinence and the prolonged convalescence which such action entails. Doubtless, many of the ruptures into the rectum subsequent to these operations are due to some oversight in not breaking down all of the trabeculæ. In some cases, where the partition wall between the rectum and the abscess was quite thin and where the abscess cavity converged to an apex, I have thought that there was danger of rupturing this partition during subsequent treatment or that there might be a very small opening through. In such cases, I have reinforced this wall by approximating the walls of the cavity at this point with deeply placed fine catgut suture. Such a stitch holds the tissue for a few days, does not hold back the discharges and is digested long before the rest of the wound is ready to close.

Every operation for abscess must include a thorough dilatation of the sphincters, in order to prevent subsequent spasm of the sphincters or rectal wall. The dilatation also permits the free egress of gas and thereby adds much to the

comfort of the patient. It also prevents any collection of feces in the rectal pouch, which might cause undue pressure on the thin wall. Of course, the dilatation should be done after the abscess has been evacuated; because, if previously performed, it would increase the danger of breaking the already thinned rectal wall. Moreover, the pressure and traumatism might squeeze pus into the new areas, dislodging thrombi, and thus produce septicemia in remote parts. Aside from the packing mentioned, the only covering applied consists of a large loose perineal and anal dressing. I never use tubes in the rectum.

If laboratory examinations find tubercle bacilli as the active cause of the abscess, the cavity should be swabbed with pure carbolic acid, alcohol being on hand to protect any damage to the outside skin.

If, on the other hand, a perirectal abscess should occur in an individual showing tuberculosis elsewhere, the abscess should be opened under gas anesthesia or local anesthesia, because of the dangers of chloroform and ether. In these patients, the abscess is the less important ailment and nothing may be considered that will confine the patient to his bed or otherwise complicate his general treatment.

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# The Treatment of Diabetes Mellitus by Means of Certain of the Rare Elements

## With a Report of Two Cases

By ROBERT FRANCIS McDONALD, M.D., Brooklyn, New York

AT A MEETING of the Brooklyn Diagnostic Institute, in March, 1922, I prepared and read a paper on the great necessity of new remedies in modern therapy. This paper dwelt upon the possibility of making use of the available natural resources of rare minerals found abundantly in North and South America. Later, I prepared a separate paper on the use of some of the rare elements in the treatment of diabetes mellitus, which paper was published in THE AMERICAN JOURNAL OF CLINICAL MEDICINE, issue of May, 1922.

Since my article did not go into details as to dosage and other particulars, and as I have received many letters asking for these details, the Editor of CLINICAL MEDICINE has very kindly allowed me to have this supplementary article published in the Journal.

My friend and associate, Dr. J. B. Weighart, of New York City, and myself, have used the combination of columbium, titanium and uranium in diabetes mellitus and related disturbances, with the best results. For the past two years or more, a reliable laboratory has prepared a standard tablet for us. Each of these tablets contain 7/20 grains of columbium pentoxide, 3/5 grains of titanium tetroxide and 1/15 grain of uranium trioxide with other, diluent and inactive, constituents, making the tablet as a whole weigh 2 grains.

The reason for the ratio of rare elements found is as follows: Uranium is the most effective of the three elements and the most toxic if employed in excessive amounts; therefore, the small quantity found. Columbium, an element of the family of vanadium and arsenic, constitutes about one-third of the amount in each tablet; and titanium, resembling silicium in its very low toxicity, represents the remainder of the combination. This ratio is based upon clinical experience and, to some extent, is an arbitrary one due to the relatively short time of its use. It may be improved upon through further experience. Case number three, spoken of in my previous paper, proves that I do not adhere closely to this arbitrary formula in all cases. However, when I change this ratio, I do so by administering the standard tablet plus an additional dosage of the specific element indicated. My method, in detail, is as follows: I never increase the dose of uranium without increasing the other two elements in proportion; which means that I merely increase the number of tablets given. In the diabetes of old age, with, perhaps, beginning cataract, I reinforce my tablets with a titanium peroxide solution. This is no place to speak of this solution, as readers of the Journal will find it in the advertising columns.

We find other cases of diabetes mellitus complicated by skin eruptions, furunculosis, ulcerations, a history of lues, etc., indicating the use of additional columbium. In these latter cases, however, instead of increasing columbium, I prefer to use the similarly acting but more powerful vanadium, in combination with the standard tablet. My chemist keeps in stock

a small pill of sugar of milk containing 1/60 grain of crystallized soluble orange vanadium pentoxide. According to the needs of the case, I use three, six or even ten of these pills *per diem* in addition to the three standard tablets.

### Three Remedies

Therefore, it may be seen that I have the following remedies to use in treating the different variety of cases.

1. Standard Tablets.
2. Titanium Peroxide Solution.
3. Vanadium Pentoxide Pills.

This enables me to make any change of dosage I may desire in each individual case, which is the most important phase of this particular therapy. Furthermore, great care must be used in selecting these preparations as lack of skill in preparation, substitution, etc., may result in a poor product with subsequent lack of results. A reliable preparation is soon recognized by its appearance and by simple chemical tests. Titanium peroxide may easily be reduced to colorlessness and again restored to color, by reducing and oxydizing agents, in the hands of a skillful chemist. Vanadium pills are easily soluble in water, giving a yellow color, turning blood-red by the addition of hydrochloric acid and hydrogen peroxide. Titanium and vanadium are easily tested for their quantitative concentration by colorimetric methods.

At present, for my own personal needs, this combination is preferable to any other one. Any physician may modify this to suit himself, as he is probably the best judge in any particular case which comes under his observation.

### Physiology of Digestion

The normal individual consumes carbohydrates, proteids and fats which contain large molecules that are split up (in a large proportion) into smaller molecules by the action of the saliva and the digestive secretions of the stomach. This partly-digested mixture passes into the duodenum, either in solution or suspension, and diluted to a specific gravity of about 1.006. This is effected by intermittent waves of expulsion which may be compared to ejaculations. By means of sedimentation into layers within the stomach and by adapted nivellation of the pylorus through suspending ligaments, one layer will be rich in predissolved food, another will be rich in proteids undergoing splitting, another in fats and another in achroodextrin. These waves follow each other in order as stated. Before passage through the pylorus, this entire digestive process is termed incomplete hydrolysis, and the digestive process which then starts in the duodenum is a continuation of hydrolytic splitting into products which are capable of absorption by dialysis.

The duodenum mixes fractionations of stomach contents immediately with pancreatic juice and some of them, in addition, with bile. The pancreatic juice contains all the ferments necessary for the completion of the hydrolysis of all the valuable food constituents. But, here starts the difference between healthy individuals and diabetics. In healthy individuals, the contents of the duodenum are oversaturated fifty times with enzymes. This very concentration immediately slows up the hydrolysis, and only further passage through the intestines, with absorption, transudation and dialytic exchanges, gives us the necessary dilution that results in the optimum of hydrolytic efficiency. Exercise, condition of heart action, etc., may retard or accelerate the activity of these enzymes. This is the very process that regulates the amount of sugar formed and absorbed in the duodenum and it is that which is needed by that body.

### Importance of Pancreatic Function

Every direct or indirect pathological influence upon the pancreas results in a secretion weaker in enzymes, and the automatic regulation of sugar formation and utilization is then disturbed. The hydrolytic action of the weak pancreatic juice starts earlier than that of normal juice but hydrolyzes a smaller amount of food than normal juice in full time. These facts are proven by the research work of Oefele. Therefore, the following claims are backed up, not only by theory but also by practical results.

In diabetes, the source of the sugar found in the urine may be the predissolved food passing into the duodenum, namely saccharose, or it may be the achroodextrin solution, or both, or even both plus mixtures of the abnormal derivatives of other waves. To protect the predissolved food, I recommend the standard tablet to be given immediately after the meal. To protect the derivatives of achroodextrin, one hour after the meal is the correct administration. It requires some experience to select the proper time; but, as a general rule, the practitioner will rarely make a mistake if he gives the tablet immediately after the meal in cases where the percentage of sugar is low, where its presence is intermittent, and in cases of fat-diabetes. In these cases, the sugar very

often disappears entirely. In cases of 4 percent, and higher, of sugar and in cases of serious exhaustion, the tablet is preferably given one hour after the meal. In these cases, the sugar decreases in amount, but only rarely will it disappear. If the tablet is given immediately after meals, it retards the entire hydrolysis within the small intestine. If given one hour after meals, it does not interfere with the general digestion of proteids and fats and retards only the premature utilization of starchy food.

The foregoing gives a résumé of my practical experience with the elements mentioned. There may be many possibilities for improvement in the symptomatic treatment of diabetes. Even the combination in our tablet is not definite nor clear. I do not know whether these three oxides remain as a mechanical mixture in the finished tablet or whether they change into very complicated chemical compounds. By using the elements mentioned, separately in any case, I did not obtain the same good results as when I used the combination.

### Two Case Reports

Reports on two cases of diabetes mellitus following below, illustrate the importance of an anatomically expressed diagnosis.

In my previous papers, while I recommend the use of columbium, titanium and uranium to control the loss of sugar, the main point I tried to bring out was, that a careful diagnosis should be made in each individual case. This shou'd be brought forcibly to my readers' attention by means of a review of the two following cases.

Case No. 1. Male: Hebrew. Age 29. Came to me for consultation giving the following history. About one year before, began to experience the classical symptoms of diabetes; namely, polyuria, thirst, loss of weight, etc. Examination of urine showed presence of sugar. Had lost about sixty pounds in weight in past year.

Family History: Negative as far as direct evidence of diabetes is shown. Two uncles on mother's side died of left-side pneumonia. (Acute Pancreatitis?)

Past History: Negative except for history of injury nine years before onset of glycosuria.

Physical Examination: Patient very emaciated and weak. Marked deformity of left lower thorax. Eighth, ninth and tenth ribs have been crushed in and the resulting deformity is a lateral curvature of thoracic spine with a deep cavity over old site of fracture.

Conclusions: We have a pressure of the improperly set ribs plus the callus-formation upon the pancreas, which irritation has finally resulted in his present condition. There have been only five cases similar to it reported in the literature, all of them by Oefele. However, this is the first case at such an early age.

Case No. 2. Male, age 50. Gives history of gall-stone attacks about fifteen years ago. About ten years ago, diagnosis of diabetes made.

Physical Examination: Shows presence of gall-stones in gall-bladder.

Conclusions: Gall-bladder, being in abnormal position on account of calculi, has pressed upon pancreatic duct for years, interfering with normal flow of pancreatic juice. This has resulted in chronic inflamation of pancreas.

Treatment: In case number one, after improving health of patient, will have surgeon do plastic operation but *no* resection of ribs.

In case number two, will not recommend operation, but will do non-surgical drainage of gall bladder by means of duodenal tube plus routine treatment.

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# Memoirs of the World War

By DR. GUSTAVUS M. BLECH, Chicago, Illinois

[*Continued from July issue, p. 510.*]

### To the American Front

THE King of England and General Pershing came to our headquarters. The King decorated a number of officers (including a young Chicago surgeon) and men for conspicuous gallantry in action. General Pershing received a high decoration.

After that, rumors would not down that we were to be sent to the American front and, indeed, shortly after, the Division started the Hegira for the American sector. General Bell and some of the higher officers undertook the journey by automobile.

August 23d, orders reached me to go with a small group of officers to a station in Amiens and proceed on a certain train at 1:52 a. m. We went by truck and reached Amiens just as it got dark. The train had not been made up as yet. The British Transportation Officers and a few headquarters officers superintending the arrangements chatted pleasantly on the platform of the station. As we had plenty of time, I went into the dead city. The railroad station had been completely demolished. Walking along the railroad tracks was a hazardous task because the ground was strewn with bricks and stones of variable sizes. The street along the railroad had every house on both sides completely demolished. One saw houses with part of one wall or two walls standing out like markers. The interior was a mass of débris. I went back to the shed. The Y. M. C. A. people had put

up large tanks of hot tea. I got tea, crackers, and cigarettes. No money was accepted. A battalion of the 129th Infantry arrived. The men marched noiselessly. Not a whisper was heard; only the shuffling of feet.

National Guard troops? Yes; but I could not tell them from regulars. What splendid discipline! The battalion commander rode in the compartment assigned to me. I complimented him on his battalion. "I am constrained to give most of the credit to our

Tronville: Church built 700 years ago.

colonel. He is a regular." He spoke enthusiastically about the regimental commander.

Suddenly a man with silver eagles on his shoulders looked into the compartment. It was Colonel Edgar A. Myer. I beheld the man who was noted for his iron discipline. I never saw a kindlier man; simple and unassuming but direct in speech. He merely came to convince himself that all arrangements were perfect. Even the watering of the horses was looked after. No detail was lost sight of. "With such officers we ought to lick the Germans," I said to myself.

It was a pleasant journey. At an early morning hour, we skirted Paris and saw the Eiffel Tower in the distance. The train halted in a suburb, and Paris gamins, girls and boys of the lowest grade, came near the train begging for cigarettes. The soldiers threw handfuls at them. The girls smoked and flirted desperately. Police kept them in check and prevented vendors of oranges from overcharging. Finally we pulled out.

At 11:00 a.m. we halted at a small village. A railroad employe told me we could get something to eat in a nearby restaurant. But the station chief would not wait longer than ten minutes. Coffee was at the station for the soldiers. I spoke to the commander. He did not know what to do. I asked him to authorize me to tell the station chief not to move the train until we came back from breakfast. He did not authorize me, but he let me have my way. There followed a little confab and, with usual French courtesy, we were given an opportunity to go to the restaurant.

A dozen officers ran to the restaurant. I told the innkeeper, a woman, how little time we had. To my great amazement she and a young daughter rushed, American fashion. Bread, butter, steak, fruit, coffee — galore! The bill shocked us nearly faint—it was too small to be true. No, I had heard correctly. We paid, gave her daughter a large tip and raced to the train. Then we went on until we were at Chateau Thierry. So the line had been reopened! At the station, the usual sights of destruction. But, there was already a woman at the newstand and I bought magazines and some newspapers.

Along the tracks for many miles nothing but shattered houses, shell holes and crosses marking the graves of soldiers in their last, eternal sleep!

Chaumont: The Market.

At 9:00 o'clock in the evening, we arrived at Bar-le-Duc. I knew it was a fairly large city, but we cou'd see nothing in the darkness. A staff officer was already at the station and, after some delay, three of us were sent to Tronville by automobile, a distance of about ten miles.

### Another French Billet

The French town major gave me a billet-slip. I was rated an "Officier supérieur d'état major" so I felt sure that I would have a fine assignment. After a troublesome search, I found the street and number. The small house was dark. After knocking, a woman's voice inquired what was wanted. When informed that an "officier Américain" was to be billeted, she replied: "un moment," and a few minutes later opened the door. I was led through a small dining room to the attic where I saw partitions only, but behind the partition was a small room, with low ceiling, which amazed me

for its cleanliness. The bed had enough feather beds and pillows to make three; but the air was stifling. I threw open the small window.

"Oh, you will catch your deathly cold, mon commandant?"

"Yes, if I do not get fresh air."

The woman looked at my clothing roll and saw my name.

"Est-ce-que vous pouvez causer en Allemand?" she asked.

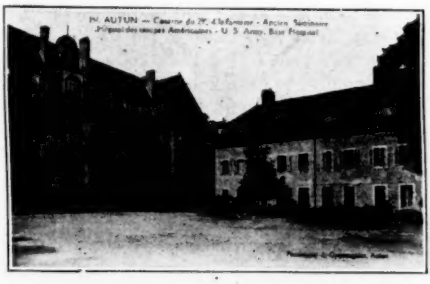
"Yes, I speak German."

Without further hesitation she spoke in German to me. They were Alsatians. I asked whether she could get me some breakfast.

They did not have much—

Anything will do, especially if there was coffee.

"At what hour?" she asked.



**Autun: Barracks. Base Hospital, U. S. Army.**

I was tired. I set breakfast for seven o'clock. I slept and dreamed of Germans, Frenchmen and Americans, all talking in German. The next day, I went through the streets. Adjoining my billet, I found something like a communal residence to be occupied by the General. The village was small, all houses shabby, dirty, old. I was reminded of a Lithuanian village I had seen in Russia; the whole aspect was one of primitiveness, such as one would find in the poorest villages in Europe. There were some drinking places and stores, but one could get very little in luxuries.

Few troops had arrived. There was no military police. The boys were hilarious—they had had French wine.

As I was sitting in front of the house, late in the afternoon, a woman rushed up to me and in an excited manner demanded that I take her to the General as soon as he would arrive.

"But why, Madam, the General is a busy man."

Some soldiers had passed by her house and had insulted her daughters.

"How did they insult them?"

"They said 'zig-zag' to them and flashed some paper money."

"But what does 'zig-zag' mean? I confess I saw the name on advertisements of cigarettes."

"Oh, you know, that has only one meaning."

"Is that all the soldiers did?"

"Yes."

"Do you know who they are? Can you point them out?"

"No."

"Then what do you want? I certainly will not take you to the General."

Later I heard that this same woman, who was so distracted because some American boy full of deviltry flirted in rather raw fashion with her daughters, had a lover or two of her own. And I saw with my own eyes several soldiers hang around her place fooling with her and her daughters throughout the entire time we were there.

"What did she want?" I asked my landlady bewildered.

"Probably money. We hear that the Americans pay for everything."

Life in Tronville was pleasant because there was plenty to do. Part of our sanitary train, which had been separated from us when we arrived in France and was held in a village near Langres completely inactive, rejoined the Division. We had to reorganize again on an American basis. New equipment was secured, especially trucks. The staff was working feverishly until all hours after midnight. Maps of the neighborhood were distributed and battle plans worked out.

There was a scarcity of smoking material and, when a Y.M.C.A. canteen did get a few boxes, one was lucky to secure four or five cigars.

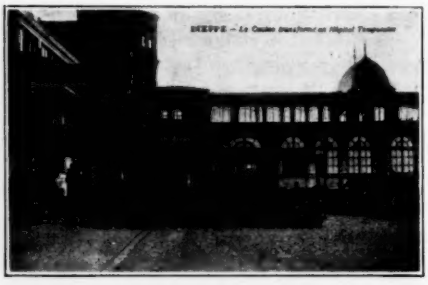
### A Rush-Trip to Paris, Air-Raid Alarm

I was ordered to Paris to see a sick staff officer who had to be left in a hospital. I took a night train. Every car was so full of officers and men that there was not a seat left. Offers of money to secure a camp-chair or a place to lie down proved futile. I stood up the entire night. As soon as I reached Paris, I went to a hotel for two hours' rest. Then I drove to the hospital.

I decided to return on a day train and spent the entire afternoon purchasing books, smoking material and some personal equipment.

During the night, an air-raid alarm was signaled. Many in the hotel rushed to the lobby. During the evening, I noted the precautions: all windows had adhesive paper pasted over the glass in the form of an "X." This was to keep the glass from splintering. First-story windows of shops had iron shutters. Monuments were surrounded by sand bags, as were many public buildings. Only blue lights were used for illumination. The alarm was by firemen blowing sirens and bugles while rushing through the streets in automobiles.

I went to the lobby to see what was going on. A number of young women and their elders sat there talking. They were evidently used to the scenes. Only one very old man was rushing for safety. An hour later he came back—the signal of safety had been sounded.



**Dieppe: Temporary Hospital in Casino.**

Fifteen minutes later, another alarm was sounded. Again the old man rushed for safety. I went to my room and soon fell sound asleep, so I do not know how long the old man had to tremble in the *cave voutée.*

The day train took me to Bar-le-Duc. From Bar-le-Duc, I returned to Tronville by a passing automobile and reported my return. The officers looked at me askance and wanted to know why I came back so quick. For them Paris meant Elysium. Later I learned that many, very many were almost Parisiomaniacs.

### Division Manoeuvers

I was directed to attend a manoeuver. Division headquarters were established in a neighboring village, in an open field. Folding tables and chairs were the only equipment. The tables were littered with maps, books, and dispatch cases. Telegraph lines were strung to the spot. A dozen motor-cycle couriers were going and coming with dispatches. The troops, a whole Division, were carrying out the proposed mobilization and formation previous to an imaginary attack. Ever so often, messages came over the wire or by courier from commanding officers and from liaison officers, reporting time of arrival, position of units, the establishment of observation posts, etc. The whole thing looked like a headquarters of a political party receiving reports of elections from many districts.

The corps commander was there and he and General Bell were engaged in frequent conferences. "Gas!" That was the signal that gas shells were being thrown by the enemy to put out headquarters. We put on our masks. The gas officer timed us with his watch. If I remember correctly, one officer was declared out—he could not swallow a slice of fruit he happened to be chewing at that moment quickly enough.

I had occasion to return to Tronville on an errand. The corps umpire took me in his machine to the village. Half an hour later, I returned with him to the field headquarters. On the way, he stopped twice to cut the telegraph wire in two places. I did not know whether I was permitted to caution headquarters and was nervous. But about twenty minutes after my arrival, General Bell murmured something about no messages having come in for half an hour. It was up to the signal officer to repair the damage. All of a sudden there was a commotion. The General and another officer at his table were "killed."

The General asked the umpire whether he should leave his papers. He was told to take them along, as the shell that had "killed" him and his immediate staff had also "destroyed" the papers. I was very glad to learn that I, too, was "killed." That gave me an opportunity to return to Tronville with the General. A young lieutenant-colonel, being the senior "survivor," was continuing operations.

That was all I saw of the manoeuvers, the troops in imaginary action being, of course, miles away from headquarters; but, later in the afternoon, all officers directly connected with this manoeuver gathered at a designated spot near a cross roads to hear the critique.

General Bell was furious about the tardiness of certain units connecting with their flanks. Among others, the corps umpire spoke and he said something that filled me with anxiety.

He narrated an incident in real action in which a liaison officer had not been up to the snuff, with the result that over two hundred soldiers unnecessarily lost their lives. A poorly trained liaison officer had that many deaths on his conscience! How many others are there in our army, which produced officers

in three months, that would be responsible for the avoidable loss of many lives?! It takes a medical man four to five years to get his diploma. There is a general movement on foot to issue no licenses to any graduate who has not served one year in a good hospital as an interne. And, even after that training, few conscientious men risk the performance of major surgical operations until they have served a further apprenticeship under a recognized master in the profession. And, here, the slightest error can snuff out the lives of two hundred odd men who would no doubt be still fighting had the leadership been perfect. And all the training afforded crowded into but three months! Yet, the science of modern warfare has been described as one of the most intricate subjects the human mind has ever been called upon to master!

However, after one has studied a good deal and read "criticisms" of the generalship of leaders in former wars, one comes to the conclusion that the leader probably knew his business better than the "scientific critic," for the theory of war and the technics of war are not always one and the same thing. There are no fixed laws to follow, no books to guide us in a given case. The general military education furnishes a man certain data, certain experiences; on the whole, though, sound common sense rules here as everywhere in life.

If I had to choose between a general, brimful with theoretic knowledge of all the modern wars, capable of discussing the technical side of a given battle with mathematical precision, and another general who has not absorbed strategic encyclopedias but has courage, personality and above all good common sense, I should a thousand times prefer such a general for war even if he could not write a line for a staff college thesis.

Such a general, and particularly an American general, would know his troops. He would estimate how much the melting pot has accomplished, he would know how much their powers of endurance would stand, he would provide for everything necessary to sustain them and accept battle based on these conditions.

There are, of course, many elemental things, such as adequate artillery barrage previous to an attack, the organization of platoons in bombers, grenadiers, sweepers-up and the like, in all of which the officers must be thoroughly grounded; and, after that, all that is necessary is good morale and adequate supply of necessities.

This may be a bold statement to make for a layman, but, irrespective of my profession in civil life, I have had better opportunities for study than many a training camp graduate, and I am convinced that I am presenting the problem of strategy as it is and not as scientific treatises have depicted it. Lest I be misunderstood, however, I desire to emphasize that the elemental knowledge referred to can not be acquired in a few months.

The concentration camps, of course, were to act as a sort of postgraduate school, and there it depended upon the individual officer to perfect himself. The time available was so limited that even men with brilliant minds should have paid undivided attention to their work, which was seldom done.

Le Treport.

### To the Verdun Sector

I was appointed a member of a general court-martial to try several offenders. What the charges were or who the offenders concerned were, we did not know. The court organized. But, before we could open the hearing an order came for the Division to proceed to the Verdun sector.

I have made hardly any notes during activities in France, but I find this a small memorandum tucked away among my papers:

Sept. 6, 4:00 p.m. Start by auto with five (officers) for B-t (Blercourt). Almost ran into a fellow (Verdun), but friendly neighbor (French soldier) helped out. At B- we are solo (no troops); father (General Bell) due later. Hotel accommodations miserable (billets bad).

Blercourt was one of those miserable French villages which were left desolate by the Germans. The billeting officer had place only in ramshackle, dark houses which must have served as drinking places for the peasants. One glance in such a room and I shrank back. I imagined I could see vermin running all over the dirty, ill-smelling straw. I decided to await the arrival of my baggage, but neither that nor

the mess equipment arrived. I learned later that the French soldier-chauffeurs who drove our equipment on camions went into a ditch and, despite the protests of our guards, spent the night calmly in the trucks. The boys told me that they put in a miserable night.

Headquarters were to be in an old village school house. Magnify extreme poverty by one thousand diameters, and you have a picture of the house. However, no sooner had General Bell and staff arrived but what two young French officers appeared and demanded in the name of their division commander that we relieve their division the very next day. General Bell protested that his orders read for a day later, but the French gesticulated much and finally had their way. The infantry arrived and went into the trenches, knee-deep with mud.

There was a little delicatessen-notion store in this nest. The whole store was inside a window. Canned sardines were the only available staple. Bread, sugar, tea, or coffee could be seen only in a dictionary. I bought a can of sardines at two francs. Later, I went back to get another can. The soldiers stood around buying all they could. The woman now demanded three francs. Then I advised the men to wait. I threatened this Mrs. Wallingford with something like confiscation at our price. The price came down at once. I refused to buy another can. It became dark. I ran into General Bell. He asked me about how things were and I told him my plight. He invited me to dine with him—for his mess outfit had arrived. I declined.

"Stop that nonsense. You would do as much for me, and I should not refuse." We came near the headquarters and by a dim light we now could see each other. I saluted perhaps with more emotion than usual, something akin to filial affection filling my soul.

That night, I slept in the school house on the bare floor, my gas mask as a pillow, a newspaper as my mattress. I spent a restless night and I awoke for the definite awakening (probably the twentieth time) when I saw dawn. I stepped out to get my limbs straightened out. In an open automobile in the street, cramped up, slept five officers. Finally I discovered on a hill a small unoccupied shack. It looked like a large packing box. I secured that and felt very contented. Rumors came of the St. Mihiel drive. We prepared for a big attack. I sat up with Colonel Hathaway in a stable until 2:00 a.m. working out the medical side of the war-plan.

I almost broke my neck reaching the shack through fences, over slippery boards, over ditches, but finally go into bed a contented man. I felt I had spent a useful evening.

Three days later, headquarters moved nearer the front to a village called Fromèreville. Everything there was well-arranged for headquarters. Houses used for office work were protected against shell-fire. Some rooms were more like underground tunnels. We had neat offices and even my living room in a peasant house was tolerable. As we arrived, the Meuse climate greeted us with a cold rainstorm against which my raincoat and rubber boots were like filter paper. I went to the room and changed linen and clothing.

Nights, the artillery (a brigade had been assigned our division while our own was elsewhere still in training) hammered away. When they did not fire, the calm seemed so unnatural that one tossed on his cot unable to sleep. They brought a German prisoner to my room to dress his wounds. A little fellow scarcely five feet tall. He gave me his name, regiment, etc.

"*Wie wurden Sie gefangen?* (How were you captured)."

"*Schleichpatrouille. Handgranate eines Amerikaners warf mich um.* (Listening post. An American handgrenade threw me over)."

I asked him who dressed him. "Americans."

I asked him whether he was not glad it was all over for him.

No, he was to go on furlough tomorrow to be married.

They took him to the intelligence officer to be questioned. Wounded though he was, he clicked his heels together in military fashion. I recalled him for one moment. I advised him to answer questions frankly, truthfully, so we could get him to the hospital. I assured him we were humane.

"*Danke. Das habe ich schon selbst erfahren.* (Thanks. I have found that out myself)."

The court-martial was resumed. It occupied several mornings. One officer was tried for drunkenness on duty. Even in the face of the enemy, there seemed to exist some friction between members of the same family. It would have been better if some officers had never been appointed as such. I have already alluded to the weeding-out process.

I was expecting to be relieved from duty with the Division. In my mind, I went over the officers' corps of that unit. Of the two brigadier generals that came with us to Camp Logan, one was found physically incapacitated

and another was relieved of command, later to find a hero's death. Two regular-army colonels commanded the two infantry brigades. Of the colonels, there remained but one—Colonel Sanborn of the 131st Infantry. The Colonel of the 132d had resigned. He was followed by Major Abel Davis of the 131st. Other colonels were either sent to the S.O.S. or transferred. Illinois would not recognize its division today, and before long there will be yet more changes.

The great drive began. The General came back from the front, furious. The artillery had not fed the horses properly, the leather harnesses were allowed to rot. The artillery brigade commander was called to headquarters for a special lecture, just as I was at headquarters. Discreetly I withdrew towards my office. A field clerk caught up with me He had an order for me to report at Chaumont. What my future assignment would be like, I did not then know. I had asked command of an evacuation hospital. Perhaps I would be lucky yet. But my service at the front was at an end.

The next day, I was to start for Bar-le-Duc by automobile. Before I left, the General handed me a letter. I preserve it as one of the most precious acquisitions of my life.

[*To be Continued.*]

# Milk-Borne Infection versus Pasteurization

By R. N. PERKINS, Omaha, Nebraska

COW'S milk is generally the first food that enters the human stomach, aside from that which nature has provided. In many cases, it is the last food before death takes away the necessity for food. That the dairy cow is the foster mother of the human race, there is no question. She supplies food for the very young who, for some reason, has been deprived of the food source that nature provided and, in addition, she furnishes butter for our daily bread, cream for our coffee, and milk for old and young as well.

It seems impossible to ascertain at what period man began to use the milk of animals for food. Much has been learned of man's past history, previous to the introduction of authentic records, by a study of the relics that have been handed down to the past and present generation. Whether these be in the form of implements of warfare, pottery, agricultural implements, or inscriptions on stones, is immaterial, so long as they aid us in forming an idea of the habits and mode of living of prehistoric man. One of the implements of prehistoric man is the churn. That a primitive churn, in the form of an earthen jar with a forked stick agitator, was used for making butter by the early tribes of man, has been established beyond a question of doubt. From East India, we learn of the use of butter as early as 2000 years before the dawn of the Christian era. Butter was used by them as an offering in their religious rites, it being one of their holiest sacrifices. In South Africa, the native cow was milked by the Hottentot, the milk being used as a food, while the roaming Arab carried with him into the desert an article of food made from the curd of sour milk.

It is difficult to imagine by what accident it was discovered that the udder of wild animals might yield milk for human food. In the early period of man's existence, hunting was a favorite occupation, and it is more than possible that a lactating deer, trapped or slain by a hungry hunter, was the first mammal from which man obtained his first supply of milk. The early days of man's existence are so enveloped in a shroud of mystery, in so far as other than speculatively information is concerned, that we must be content with that which the silent past seems to indicate. Out from the depth of a past that will be forever as silent as the sphinx, comes milk as an article of food that has to this day been inseparable from man's existence.

### Growth of Dairy Industry

The dairy industry in England was highly developed toward the end of the eighteenth century. There was at that time a number of agricultural societies in existence that made an effort to promote the farmer's interest, including dairy practice. In the year 1801, London had a population of over a million people. The problem of supplying a city of this size with its milk was overcome by keeping a large number of cows within the city's limits. In those days, people did not realize that this was not good practice. Little did they dream that the production of milk near the contamination of a large city was fraught with much danger, for, in addition to possible animal contamination, there was the possibility of contamination that always exists where large numbers of people are grouped together. Transportation, in

those days, was so slow that a satisfactory supply of milk could not be obtained from the surrounding country.

The problem of supplying a city of any size with its milk supply is one that is burdened with many difficulties, even in view of our present knowledge of milk production and our improved methods of transportation. If we could set up a condition of direct-from-the-animal consumption, where the milk did not see the light of day, then it would be only necessary to look after the health and well being of the milk producing animal; but, unfortunately, this is impossible. Whenever disease-producing bacteria are encountered, they are generally found more or less closely associated with mankind. Hence, the production of milk within or even near a city's limits, introduces a possibility of contamination that is quite removed if the city's supply is imported from a less densely populated area. To keep the number of dairy cows within or near a city's limits, necessary to furnish an adequate supply, would not only mean to unnecessarily expose them to a city's contamination, but to deprive them of their natural habitat, the quietude of country life.

### Cleanliness Promoted a Century Ago

In reviewing the history of the dairy industry, it is surprising to discover that, what is now being introduced as innovations, in reality was contended for and practiced by some, many years ago. Over 100 years ago, competition among milk maids was encouraged. The maid who drew the largest amount of milk from her cows was paid extra. Attention was given to the construction of dairy barns and milk houses with the view to cleanliness. What was then not in general practice is today not in general practice, even in view of our present knowledge of the dangers that accompany unclean conditions. While it is true that conditions today are the best in the history of civilization, that thousands of ideal barns are in existence, there are still to be found conditions that are not the best.

How many people are sufficiently interested in the conditions under which the milk they feed their children is produced, to visit the dairy or to even make inquiry relative to its production, thereby encouraging the production of clean milk? The problem is a public one. It is a question that should be uppermost in the minds of every housewife. Demand clean milk, and you will do much to encourage the production of clean milk.

### Bacteria in Milk

When milk is first drawn from the udder, it is not free from bacteria regardless of the care taken in milking. It is free from bacteria when secreted by the mammary gland of the healthy cow. There are numerous ducts and cavities in the teat and lower part of the udder into which bacteria find their way. The passage of the milk through these parts, in drawing, serves to carry these organisms into the milk. In a healthy animal, these bacteria are harmless organisms of soil and atmosphere. They have little or no significance in milk.

Perhaps the largest part of the initial contamination of milk comes from the condition under which it is drawn. Milk pails that are open at the top permit all kinds of bacteria from the atmosphere to fall into the milk. In many cases, milk is drawn from cows that are not kept clean. This condition makes it almost impossible to eliminate bacteria belonging to the intestinal flora of the cow from the milk. In contrast to this, are the conditions where the cows are kept clean, and where clean milkers do the milking. The milking machine is fast coming into general use, with the result that conditions are improved by its use if the machines are kept clean. As the milking machine takes the milk from the cow's udder by vacuum, the milk containers must be air-tight.

### Souring of Milk

The most common change that takes place in milk is, that it becomes sour. Before our knowledge of bacteria, this was supposed to be a natural change in milk, the supposition being that milk would sour and clabber just as blood would clot. The souring of milk was in many cases attributed to thunder storms. The study of bacteriology has shown that this is a mistake. The souring of the milk is not characteristic of the milk itself; for, it will not occur in milk that is free from bacteria. The souring of milk is the result of the actual production of acid in the milk by the acid-producing bacteria present. Milk contains a sugar known as milk sugar. This sugar is readily fermentable into lactic acid by a rather large number of different types of bacteria which produce from it various organic acids. There is a type of bacteria, known as the true lactic-acid bacteria, that change milk-sugar into lactic acid. The true lactic-acid organism (a friendly germ) is, in most cases, responsible for the acid production in milk. These organisms find their way into the milk from the soil and the atmosphere and generally outgrow

all others, as they are particularly suited for growing in milk, even though it is held at a low temperature. These organisms ferment milk without the production of gas. In this case, near 98 percent of the acid formed is lactic acid. The curd in the milk, as produced by this organism, is smooth, firm, and finely divided. When this curdling takes place in a test tube or bottle, the appearance of the milk is unaltered, only a close examination will reveal the fact that curdling has taken place.

Many other bacteria produce a curd in milk, some by the formation of acid and gas, while others produce what is called a sweet curd. Gas production is always evidenced by the formation of air bells in the curd, while a sweet curd is of a less firm nature and inclined to be slimy. Some types of organisms that produce a sweet curd eventually liquify the curd, with the production of evil smelling compounds, the result of their putrefactive action. This milk should never be used, as the bacteria that are responsible for milk poisoning belong to this type. The curd-liquifying, or the peptonizing bacteria (as this type is called) do not grow in the presence of a larger number of true lactic-acid bacteria.

### Milk-Borne Infection

Since about the middle of the last century, evidence has rapidly accumulated that milk is frequently a vehicle for carrying infection. It has been shown that there are many ways in which milk may become contaminated with bacteria; it is therefore not surprising that sometimes disease-producing bacteria gain access to the milk supply. Milk is a suitable medium for the growth of many bacteria, including forms of disease-producing organisms: often the introduction of only a few of these germs, as perhaps almost an unavoidable contamination, may result in the production of large numbers due to their multiplication.

Aside from the possibilities of milk becoming contaminated from humans, there is the danger of the animal being infected with some animal disease, the germs of which produce disease in man. A very common disease in dairy cattle is tuberculosis; others are, mastitis, foot and mouth disease, and lump jaw, all of which are transmissible to man through infected milk. Some authorities claim that, aside from the fact that tuberculosis in cattle imposes upon our live stock industry an annual loss of over $40,000,000 a year, it is also responsible for over 25 percent of all cases of tuberculosis in children under 16 years of age. Nearly every city in the United States has laws making it compulsory for all animals supplying milk for human consumption to be tuberculin tested every so often, and those reacting to the test to be slaughtered under state or government supervision. If these laws are rigidly enforced, this is in a measure a protection against tuberculosis from milk. In many cities, the playing of politics is of more importance than safe-guarding the milk supply. As a result, men are appointed to office because of the number of votes they can deliver on election day or in consideration of the political work they have done; hence, unqualified men often hold important offices. Non-enforcement of laws, inefficient inspection is the result. How are you to know that the milk supply is safe?

Aside from the fact that the rigid enforcement of the laws relative to tuberculin-testing of all dairy cows may render a milk supply free from danger of tuberculosis, there is mastitis in dairy cattle to be reckoned with. Mastitis is an infection of the animal's udder, often located well up into the udder and with no visible signs of the disease until it reaches advanced stages. The tuberculin test does not reveal mastitis; therefore it offers no protection against an infection that has its existence in the very gland from which the milk is drawn. The germs producing mastitis in dairy cattle give rise, according to many authorities, to septic sore throat in man; some authorities claiming as high as 79 percent of all cases traceable to raw or unpasteurized milk. Mastitis in dairy animals in the early stages can only be determined by a careful examination by a veterinary surgeon; therefore, it often goes unnoticed until the disease advances to an acute state, during which time billions of germs are thrown into the milk supply. May I ask what protection you have against this, other than efficient pasteurization?

In all large cities where they have an efficient public health department, every case of an infectious disease is investigated and the source of the infection determined if possible.

| Boston, Mass. | | |
|---|---|---|
| Year | Disease | No Cases |
| 1907 | Diphtheria | 72 |
| 1907 | Scarlet Fever | 717 |
| 1908 | Typhoid Fever | 400 |
| 1910 | Scarlet Fever | 842 |
| 1911 | Septic Sore Throat | 2064 |
| Total | | 4095 |

The record of four years for the city of Boston brings out the extent to which unpasteurized milk is dangerous. More than four

thousand cases of preventable sickness in one city in one year. All such milk-born epidemics are caused by raw or unpasteurized milk, and they never occur with properly pasteurized milk.

### Pasteurization of Milk

The question that naturally comes up in the minds of some of you is: Just what is pasteurized milk? The word pasteurization is used in honor of the great scientist, Louis Pasteur who discovered the process, first applying it to wines, as it enhanced their keeping-quality. In the language of the laity, pasteurization means heating the milk sufficiently to kill and render ineffective any disease-producing bacteria that might be contained in it, without otherwise changing the milk in any way. Most cities define pasteurization as the process of heating milk to 145° F. for 30 minutes, and do not recognize any lower temperature or shorter heating period.

The next question in order is: Are there any objections to the pasteurization of milk? There is no real objection, although some have objected for various reasons. It is claimed:

1.—That the soluble lime and magnesium phosphates contained in the milk are precipitated as insoluble compounds, thus making them unavailable for utilization.

2.—That the colloidal albumin, so much needed by the very young, is coagulated; that the casein is toughened by the heat to such an extent that it is less digestible.

3.—That the life of the milk is destroyed.

4.—That the protective action offered by the lactic-acid bacteria is destroyed, resulting in the fact that, instead of souring normally, the milk will putrify.

5.—That pasteurization encourages the production of unclean milk, the producer thinking that cleanliness is unnecessary because the milk is to be pasteurized.

The precipitation of the soluble lime and magnesium phosphates is not effected until milk is heated above 155° F. for 30 minutes. An investigation made by the Bureau of Animal Industry (Dairy Division) of the United States Government, revealed the fact that it was possible to heat milk to 155° F. for thirty minutes and not affect these salts in any way. There was a time when different temperatures of pasteurization were used; when milk was heated to near the boiling point. These high temperatures did render some of the phosphates insoluble, but this temperature was employed only before the knowledge was extended to the point where it was known how high it was necessary to go to kill disease-producing bacteria.

What has been said of the change in soluble phosphates, can also be said in the case of the soluble albumin. The albumin is not coagulated at 145° F. when applied for thirty minutes. It requires a temperature of 150 degrees applied for thirty minutes before the albumin is in the least affected, and a temperature of 153 degrees before a pasteurization taste is imparted to milk.

Another objection that has been raised to the pasteurization of milk is, that the casein is so altered that the curd, when precipitated in the stomach, is hardened. This is without foundation, as no charge of this nature takes place at 145 degrees in the casein. As a matter of fact, the milk of cows was intended for its own offsprings, and the all-wise creator so constituted it that it was more suitable for the calf than for food to replace that of mother's milk. In using the milk of mammals, man is appropriating to his own use that which was designed for another. If he finds it not suitable for himself in all respects, it is up to him to use it as it is, or else modify it so that it will fit his needs. It has been shown that, when cow's milk is heated above 150 degrees for thirty minutes, the casein coagulates less rapidly; that the coagulum is highly flocculent, and exists in finely divided particles so that it is more accessible to the digestive ferment of the stomach. In view of this fact, many recommend heating their modified cow's milk above the temperature of regular pasteurization, some even to the boiling point.

### Vitamines

Other contentions have been made to the effect that the pasteurization of milk destroys the life of the milk. This objection is vague and an attempt to avoid the real issue. Milk has no life unless its enzymes or vitamines may be called the life. The pepsin contained in the gastric juice of the stomach is an enzyme, and so is the diastase of malt, the enzyme that changes starch into sugar. Mother's milk, be it from the mother animal or human mother, is a fluid secreted for its young whose development is not complete, and not only does it contain that which is most suitable in the way of food substances, but it also contains the necessary enzymes and vitamines required for its utilization.

At a temperature of 145° F. applied for thirty minutes, the four enzymes recognized as existing in milk are not killed; hence, there

is no objection from the standpoint of the enzymes.

Vitamines are unknown essential dietary factors. Regardless of the amount of nutritious food that you eat, if it does not contain vitamines in sufficient quantity, the metabolistic functions of the body cannot be carried on as intended by nature. Heretofore, the measurement of food values has been established by their calorific value. The confirmation of the isodynamic law has permitted us to apply

The Four Milk Enzymes

| Name | Function | Thermal Death Point |
|---|---|---|
| Peroxidase | Oxygen Transferring | 170° F. |
| Catalase | De-oxidizer | 158° F. |
| Glactase | Protein Splitting | 210° F. |
| Lipase | Fat Splitting | 158° F. |

to the measurement of food values the same method used in measuring coal, namely, burning them in oxygen and measuring the heat units given off. Within the last twenty years, a great deal of work has been done along this line, with the result that the calorific values of most foods are accurately known. The point had been reached where it was possible to calculate the ration for all vocations in life, from the student to the soldier; when lo,!! science again stepped in and introduced another factor that bids fair to make us change our ideas concerning food selection and the balanced ration. The vitamines modified the purely chemical view of digestion.

A balanced ration has, heretofore, been considered a judicious mixture of proteins, carbohydrates, fats and mineral matter so proportioned as to contain the right amount of the different materials to enable the body chemistry to carry on its metabolistic process as intended by nature. Now comes another factor. Not only must the balanced ration consist of the necessary number of calories, its make-up so proportioned as to contain the required amount of protein, carbohydrates, fats and mineral matter; but, in addition, it must be so selected, so served, as to contain, in an unaltered condition, the necessary amount of the different vitamine substances, whatever these substances may be, in order that the nutritional functions of the body may be carried on in accordance with the plan of the creator.

The year 1921 has brought us to a point where we must now recognize three vitamines; namely, "A," "B" and "C." No one knows

A Balanced Ration

| Food Substance | Grams Per Day | Calories |
|---|---|---|
| Proteins | 118 | 673 |
| Carbohydrates | 500 | 2000 |
| Fats | 56 | 517 |
| Mineral Matter | 15 | 3190 |

Vitamine A—X X X Vitamine B—X X X
Vitamine C—X X

what 1922 will bring forth in the way of additions to the vitamines. In view of this fact, it seems almost impossible to forecast the extent of the vitamine family or the future possibilities of these unknown essential dietary factors, which have to this very day defied the efforts of the world's greatest scientists, to isolate and to determine what they are. That they may be classed as living entities, is set forth by the fact that they may be killed by heat and other agents. What is known of them, has only been gained by actual feeding tests. It remains for science to determine the true nature of the vitamine, but, in the meantime, let us use the information already gained for the benefit of humanity.

RECOGNIZED VITAMINES

| | Vitamine A | | Vitamine C |
|---|---|---|---|
| Properties | Oil Soluble | Water Soluble | Water Soluble |
| Thermal Death Point | 248° F. | 220° F. | 122° F. |
| Physiological Properties | Ess. to Growth | Ditto | ? |
| Avitaminoses | ? | Beri-beri | Scurvy |
| Quantity Found in Milk | X X X | X X X | X X X |

**Vitamines in Milk**

Milk is rich in all known types of vitamines; yet, science has shown that milk varies in its vitamine content. As our bodies have the power of storing surplus energy, to be utilized as the occasion demands, so have our bodies and the bodies of animals the power of storing vitamines. The vitamine content of milk depends upon that of the food intake of the producing animals. When this is low, and the animal's reserve has been exhausted, the vitamine content of the milk produced will be low. In not providing the dumb animals with human intelligence, Nature must have endowed them with instinctive intelligence sufficient to enable them to select for themselves the food most suitable for their well-being. Experience has shown that, when cows have been kept on dry feed for sufficient time, on being turned into pasture they will gain in weight and milk production out of all proportion to the calorific value of the food intake. The vitamine content of the milk will be increased in propor-

tion. It seems from this that, in the production of milk, we must go back to nature; for, of what real value is a large volume of milk and fat that is depleted of its vitamine contents?

### Results of Vitamine Deficiency

Vitamine deficiency in milk, as the result of production under unnatural conditions, opens up a new line of thought. McCullum has shown that young heifers, fed on a selected diet of the different cereals, grew and produced their young normally on corn products, but failed to do so on wheat or oat products. Others have shown that the vitamine content of milk depends upon the vitamine content of the food intake of the producing animal. This being so, the vitamine content of meat may be dependent upon the amount the animal had in reserve at the time of slaughter. Applying the same logic to reproduction, it is more than possible that the health and vigor of the offspring, be it animal or human, may be far more dependent upon the vitamine content of the food intake of the producing mother than is generally believed. McCullum's experiments brought out the fact that the offspring of young heifers fed on oats were nearly the same size as those fed on corn, but that they lacked the vitality necessary to overcome the vicissitudes of early life, and died soon after birth.

When cattle are turned into the meadow in the spring, after a winter on dry feed, they gain in weight and milk production out of all proportion to the calorific value of the food intake. Their eyes become bright and full of life, their whole being becomes radiant with life and energy. The point I wish to bring out is this; that, instead of it being a question of pasteurized milk versus raw milk for infant feeding, it may rather be a question of the vitamine intake of the milk producing animal that determines the real value of milk as a food in infancy and childhood, with pasteurization applied as a safeguard against infection. The antiscorbutic properties of milk are very easily strengthened by orange or tomato juice, but this cannot be said of vitamines "A" and "B," which factors seem to be very essential to the growth and development of the young. An interference with the calcium metabolism, as the result of a deficiency of vitamine "A," or the closely related hypothetical factor "D," may be that which determines the size and strength of the body framework.

### Effect of Pasteurization on Vitamines

In the pasteurization of milk at 145° F., for thirty minutes, vitamines "A" and "B" are not affected. The thermal death point of these two factors is above the boiling point of water so that they survive, not only the low heat of pasteurization, but the cooking process as well. Vitamine "C" has a much lower thermal death point than "A" or "B." The critical temperature seems to be near 122° F., so that it is destroyed in all cooking processes. While the thermal death point of vitamine "C" has not been accurately determined under all conditions, there is some evidence to the effect that, if it is not destroyed by pasteurization, it is weakened to such an extent that, where infants are fed on pasteurized milk exclusively, infantile scurvey will develop unless an antiscorbutic, such as orange juice, is given with the milk. Some evidence is at hand that vitamine "C" is not destroyed in processing canned tomatoes, as the juice from these seem to possess antiscorbutic properties.

The subject of pasteurized milk versus raw milk for food in infancy and childhood has been discussed pro and con for many years. Many physicians still prescribe raw milk and close their eyes to possibilities of the presence of pathogenic bacteria. It would seem that the studies of Dr. Hess, which were made at a New York State institute, would have made plain the relation between pasteurized milk and infantile scurvy. Dr. Hess recommends the use of pasteurized milk for infant feeding on account of the security it offers against infection, but he also advises that an antiscorbutic (such as orange or tomato juice) be given as early as the end of the first month of life.

### Effect on Bacteria

It has been said by some that, when milk is pasteurized, the protective action offered by the lactic-acid bacteria, or those causing it to sour, is destroyed; that, in the absence of these organisms, putrefactive bacteria like the peptonizers would develop unhampered. Those who advocated this theory, got by very nicely so long as there was little information as to the type of bacteria that survive pasteurization. With bacteria, as it is with all other life problems, it is a question of the survival of the fittest. Where one type outnumbers the other, it is the greatest number that thrives at the expense of the others. If the acid-producing bacteria are in the majority, and the milk is stored at a temperature at all suitable for the growth of any bacteria, it will sour normally and will then be used only as sour milk. On the other hand, if the peptonizing bacteria are in the majority, they will develop and produce a sweet curd, eventually dissolving the curd

with the production of evil-smelling compounds, the result of their putrefactive action. In this case, the souring point does not constitute a danger signal to the user that the milk is old until putrefactive bacteria have developed in such a number as to be counted into the millions.

In view of our meager knowledge of the kind and type of bacteria that survive pasteurization at different temperatures, Ayers and Johnson, of the Dairy Division, Bureau of Animal Industry, made an exhaustive study of these microorganisms publishing their methods and results in Bulletin No. 161. The conclusion drawn, after finishing their investigation, was, that there are four groups of bacteria in milk; namely, the acid formers, the inert, the alkali formers and the peptonizers. They found after the examination of many samples of raw and pasteurized milk that, if milk is properly pasteurized at 145° F. for thirty minutes, while the number of bacteria was decreased by pasteurization near 99.8%, the percentage ratio between the acid formers and the peptonizers was increased to such an extent that pasteurized milk was even more sure to sour normally than raw milk. Proper pasteurization does not kill all of these friendly lactic-acid producing organisms that cause milk to sour; therefore, pasteurization increases the socalled protective action of these organisms.

The objection, that pasteurization of milk encourages the production of unclean milk, might have some foundation if pasteurization really restored quality to milk. In order to pasteurize milk, it must be of good quality; otherwise it cannot be pasteurized. Milk that is in any way tainted, would not be benefited by pasteurization other than by reducing the germ content. If milk is the least sour, the milk is curdled, on being heated, with complete loss to the dairy. Thus, it will be seen that pasteurization, instead of encouraging the production of unclean milk, actually demands quality milk.

The germs that produce diphtheria, typhoid fever, tuberculosis, and septic sore throat, have all been isolated and studied in pure culture. Their thermal death point has been accurately determined.

By reference to the thermal death-point table, it will be seen that, of the pathogenic bacteria, the B. tuberculosis requires the highest temperature to destroy, its thermal death point being 140° F. for twenty minutes. In order to have a margin of safety, milk is pasteurized between 140 to 145 degrees for thirty minutes.

Thermal Death Points

| Organism | Temperature | Time Applied |
|---|---|---|
| Tuberculosis | 140° F. | 20 min. |
| Typhoid | 138° F. | 20 min. |
| Streptococcus | 135° F. | 20 min. |
| Diphtheria | 131° F. | 20 min. |
| B. Coli | 150° F. | 30 min. |
| Acid Producing Flora. | 160° F. | 30 min. |
| Alkali Milk Flora | 145° F. | 30 min. |
| Peptonizing Flora | 175° F. | 30 min. |

Ayers and Johnson, of the Dairy Division, Bureau of Animal Industry, found that it required a temperature of 150 degrees applied for thirty minutes to insure the destruction of all B. coli, while others have shown that nearly six percent of the total B. coli in milk will survive the temperature of regular pasteurization.

The point of efficient pasteurization lies so near that of the cream line that, in many places where stringent regulations are not in effect, the tendency is to reduce the temperature to 140° to 142° for thirty minutes. Under many conditions, the creaming power of the milk seems to be materially affected between 142 and 144 degrees F. Milk that, on standing, after being heated to 140° for thirty minutes, shows a creaming power equal to from 12 to 14 percent of its total volume, will be so altered after being heated to 145 degrees for thirty minutes, as to show only 8 to 9 percent of cream volume. As the consumer in many cases judges the richness of milk by the amount of cream rising in the neck of the bottle, many employ a temperature of between 140° and 145° for from 20 to 30 minutes in order to save the cream line. Modern pasteurizing machinery, with automatic time and temperature controlling devices with automatic recorders, have enabled many plants to eliminate the human element, and to heat milk to 145 degrees for thirty minutes, without materially affecting the cream line. These machines permit of uniform contact throughout the entire volume of milk with the heating medium, as well as assuring of very rapid cooling without agitation.

**The Purpose Is: Clean Milk**

The ultimate aim of every conscientious milk dealer is, to deliver to the consumer a product that is not only produced and handled under clean conditions, efficiently pasteurized, but also is free from all possibilities of human contamination. The employes of every dairy can be examined from time to time and their general health looked after, but this cannot be said of those who handle the milk bottles in the homes, which eventually are returned to the

dairy to be again filled with milk. Where have you not seen milk bottles? They may be seen from the sick room to the garbage can. And, yet, many of these bottles find their way back to the dairy to be filled with milk. Can these bottles be washed by hand, in water as hot as the hands will bare? The answer is, no. They must not only be washed in hot water containing sufficient alkali hydroxide or carbonate as will insure the dissolving of any dry milk and the removal of all dirt and grease, but they must be rinsed inside and out with boiling water; finally sterilized with dry steam to insure that they be clean and safe to use. All chipped or cracked bottles should be rejected and not again filled with milk. A modern bottle washer is as essential to every dairy as a modern pasteurizing machine.

Every man and woman should be interested in their milk supply; interested to an extent sufficient to investigate the conditions under which it is produced, gathered and distributed. See that your milk supply is pasteurized. If it is pasteurized, see that it is efficiently pasteurized. It is not at all difficult to determine when milk is properly pasteurized; all up-to-date dairies maintain a laboratory, and, if you become interested in quality milk, clean conditions, and efficient pasteurization, then the dairy is forced to maintain these conditions.

Guard your milk supply in your own home. Do not leave the bottles out on the porch until noon. The milk is not benefited by the summer heat, nor are you sure what the cat or dog has been licking before they licked the top of your milk bottle. When once the cap has been removed, throw it away and, after wiping off the top of the bottle with a clean cloth, place a clean glass over the top. This eliminates the necessity of using the fingers to remove the cap if the cap lifter does not happen to be handy.

We often hear people say, "Look at me! I am hale and hearty at eighty years. I have always been fond of milk, have used it freely all my life, never even thinking that it should be heated before using." While this is true, it must be remembered that you can never measure the results of any conflict by the number of survivors. We must have a list of the killed and wounded as well. These dangers are new ones only because they have but recently been found out. Compare the death rate from typhoid fever of twenty years ago, before the day of general sterilization of the drinking water supply, with the death rate today, and the figures will tell the story better than I can. What can be said of our water supply, can also be said of our milk supply. Compulsory pasteurization of every drop of milk offered for sale will do for the milk supply what chlorination is now doing for the drinking-water supply. Let us all become interested in the milk supply, and meet the problems involved with courage and conviction; in the end, it will not be necessary for future generations to erect any monuments to our ignorance.

*". . . Of even more vital moment is chemistry in the domain of health. The pitiful calls of our hospitals for local anesthetics to alleviate suffering on the operating table, the frantic appeals for the hypnotic that soothes the epileptic and staves off his seizure, the almost furious demands for remedy after remedy, that came in the early years of the war, are still ringing in the hearts of many of us. No wonder that our small army of chemists is grimly determined not to give up the independence in chemistry which war has achieved for us! Only a widely enlightened public, however, can insure the permanence of what farseeing men have started to accomplish in developing the power of chemistry through research in every domain which chemistry touches."—Francis P. Garvan, in An Open Letter to President Harding, citing Professor Julius Stieglitz.*

# Surgical Seminar

Conducted by Gustavus M. Blech, M. D.

## Solutions of Problems 1 and 2*

*PERSONAL NOTE*: Inasmuch as copy for this department must be in the hands of the managing editor on the tenth, to insure publication in the subsequent issue, and as it appears virtually impossible to get the journal into the mails in time to reach the subscribers about the first of each month, it is requested that solutions or discussions intended for this department be mailed in time to reach the editor on the ninth of the month. Possibly, it would be best to postpone publications of the solutions for a month, but no definite decision has been reached at this writing.

It is gratifying that, in spite of this handicap, a number of solutions have been sent in. Unfortunately, only two can be utilized as the others contain no discussion as to by what method of reasoning conclusions were reached. Supposing a hundred readers should send in the correct diagnosis, giving the name of the affections only, there is nothing gained by it, since the purpose of this department is, to sharpen our diagnostic acumen.

Indeed, I would prefer a wrong diagnosis, properly presented, to a correct diagnosis without comment, since the chance of coincidence is not to be ignored. Thus, three men sent in the correct diagnosis of Case 1; but, beyond such an expression, "this woman had so and so," no reason for the diagnosis is given. Suppose that the men only guessed? On the other hand, a man may err, yet, be logically correct. We all profit by such errors.

In conclusion, I again point out, that my sole object is not to conduct quizzes or "courses," but to contribute to the best of my ability the means to benefit my surgical colleagues, as I myself expect to benefit from the interchange of ideas.

### Case 1

Dr. A. (Xeres) writes:

Dear Dr. Blech:

Just read the July issue, and hasten to send you my solutions of Cases 1 and 2.

Before doing so, I feel I ought to assure you that I have followed your contributions with great interest, but your last seminar is, in spite of the announcement that it is not new, certainly new to me, since your way of presenting cases leaves open many avenues.

I do not know whether you avoid mentioning certain facts intentionally, and, if so, you may have a purpose I cannot see. But, surely, one hesitates to reach a definite diagnosis, with the limitation in data given by you.

Nevertheless, I will try my luck with Case 1. My first thought was, that the patient had an ectopic pregnancy on the only side left her, but I am more inclined to accept a diagnosis of chronic appendicitis with adhesions.

I am aware that, to diagnose appendicitis, it is usually held that certain constitutional symptoms, such as fever, and certain local phenomena, such as tenderness in the ileocecal region are absolutely essential. However, I have had several cases just like the one you described. That is to say, the patient had colicky pains as the principal symptoms; and, as these attacks became more and more frequent, operation was done which showed a chronically inflamed, kinked appendix, bound down by adhesions.

With such a diagnosis, the treatment requires no discussion. I believe that, the more promptly these patients are operated on, the better.

*Reply.*—I am duly grateful for the nosegay. A word of cheer and appreciation helps a fellow along on a path not profusely strewn with roses.

Let it be understood right here and for the future that there is never any "catch" in the cases I present. I withhold nothing, but give all available information, just as I had it at the time and period discussed.

Indeed, I have scrupulously avoided rare or complicated cases, because they cannot very well serve the purpose I pursue. Supposing I did write of a case which in a career of thirty years I saw but once, of what practical value could it be to the general surgeon? The pathologist may be grateful for such rare material. The practical surgeon is more interested in saving human lives than in the collection of rare tumors or pathologic tissues.

*This journal, July, page 511-512.

Now, doctor, your first guess was the best. I made the same diagnosis, and had the good fortune to verify it by an abdominal section.

The patient happens to be a close relative of mine, which explains why I asked for counsel. I referred the patient to a distinguished surgeon for possible operation. He was not inclined to accept my diagnosis, but thought that the case history suggested a stone in the ureter.

As reported, during an attack, and because of the absence of the surgeon who undertook the management case, another equally distinguished surgeon was called in and diagnosed—gall-stones. When pressed by me for a reason for such an apparently far-fetched diagnosis, the answer simply was that there is no end to the variety of clinical symptoms that stones in the gall-bladder could produce. A few days later, the patient was sent to St. Luke's Hospital (Chicago) so as to be in position to receive surgical care, should circumstances demand it. It was a day or two after her admission, that I happened to stop at the hospital with the intention of making a social call, when I noticed the patient pale, with rapid pulse; partially collapsed.

As both surgeons happened to be at the A. M. A. meeting, and as no regular staff surgeon in whom I could have placed confidence happened to be on the premises, I assumed the responsibility and performed a hurried laparotomy. Section revealed the abdomen almost filled with liquid and clotted blood. The right fallopian tube (which was torn) was ligated and removed. Injections of normal saline solution raised the pulse and I could close the abdomen less hurriedly. Recovery was virtually normal.

Now that we have the proof, let us inquire why I made the diagnosis when I first saw her.

Here is a healthy, robust woman, a mother of grown children, with a prolonged period of freedom from pregnancy, at *about the end of the child-bearing period*, finding herself suffering from attacks of sharp pains in the abdomen from which she makes comparatively rapid recoveries, with a sole clinical history of some irregularity of her menstrual function. The very first thing that suggests itself is: tubal pregnancy. Each attack simply means a tubal hemorrhage (abortion) and, in all likelihood, a partial rupture of the tube.

Of course, such a diagnosis, made on such flimsy clinical evidence, if correct at all, does smack of the haphazard guessing of a species of would-be "miracle workers," who are a menace and danger to the classes of future physicians who believe themselves to be drinking from the fountain of wisdom, when, in reality, such teachers are the direct cause of so many physicians and surgeons endeavoring to do the palpably impossible, the establishment of a diagnosis at a glance.

Now, I believe in the development of our diagnostic faculties to the highest possible degree, but I would not be guilty of depending on my eye or even fingers, without at least confirming my "first impression" by a methodically conducted physical examination. At some future time, I may have something to say on this very subject. For the present, I desire it understood that, when I say *physical* examination of a patient, I mean the employment of all means likely to aid us in the establishment of a diagnosis: examination of blood, urine, feces, radiographic investigation, etc.

In a case of this character, a thorough examination of the uterus and adnexa is, naturally, the first step. But, as was shown, it yielded nothing positive. This, in itself, is meaningless. There may be placental tissue, blood and what not in a fallopian tube, especially in the early period of tubal gestation, without all this being palpable on bimanual examination. It is only much later, after clots have become organized and placenta and fetus have somewhat developed, that the tube can be mapped out. Even if the more fortunate outcome of a pelvic hematocele exists, physical examination will reveal a mass in the affected parametrium.

In the absence of a demonstrably enlarged tube, we will hesitate, and confirm the diagnosis by excluding all other conditions likely to cause the clinical phenomena.

When it comes to this, we have before us a wide field, for, not only gall-stones, ureteral stones and appendicitis have to be considered, but also peptic ulcer, pancreatitis, etc. It would lead us too far to take up all these possibilities at this time. In each we would have some previous history, something that would indicate at least a likelihood of the suspected affection.

I fully agree with the reason, as given by my distinguished colleague, that gall-stones can produce all sorts of phenomena. That is true, and, I for one, have ridiculed in the past and intend to hold up to ridicule in the future all diagnosticians whose sole stock in trade consists of a retentive memory of the many pages of medical textbooks they have *not* digested.

For, if (Heaven forbid!) a disease should have the impertinence of not announcing itself according to the pages of the concerned chapter, they would outlaw the disease because it does not play the game according to Hoyle.

Let no one, however, misunderstand this to mean that textbooks are valueless. The very contrary is the case. Textbooks are guides; often, to be sure, mere rearrangements of older ones, but recently, real counselors; especially since the better class of medical publications have began actually to *"review"* books, and not merely bestow praise more or less profusely, depending on the reputation of the publishers rather than the intrinsic worth of the authors' efforts.

Now, books can only outline in general the salient characteristics of a given disease. These may or may not always be present. Symptomatology is only one agency by which we aim to arrive at a diagnosis of obscure diseases.

Accordingly, to return to our subject, we will not fall into the error of exclaiming that, because there was no jaundice, or because there was no pain in the upper abdomen, or because the characteristic reflex pain between the shoulder blades was not complained of, gall-stones can be excluded with absolute certainty. What we can say is: the woman was healthy for a long time; she gives no history, of gastrointestinal disease, there is absolutely nothing to point to biliary trouble, and her present attacks made their appearance so suddenly, with only a menstrual abnormality (if menstrual it was) to account for, that the trouble in all probability is not in the stomach, duodenum or gall-bladder, but in the uterus or adnexa.

So, while this was my original diagnosis, it was after all a tentative only. Unless there are vital indications, one does not rush a patient pell-mell to the hospital for operation, but one observes, makes sure. In other words, each case of importance requires a sort of impersonal, judicial attitude on the part of the surgeon, and it is only when certain of *all* evidence being in and properly sifted, that the verdict is handed down with all the authority and force required by the circumstances.

Then, the question of ureteral calculus was raised. That was not altogether original, since, in presenting the case to the surgeon in question, I said that I had investigated the problem of a stone or stones in the renal pelvis and there was nothing to suggest it. Now, stones in the renal pelvis and a stone in the ureter produce one and the same symptoms. There is nothing, except the x-ray or ureteral catheter, that could help us to differentiate between the two conditions. There was no need for the use of either in this case, because, while all periodic attacks of colic should suggest the possibility of renal or ureteral stone, the pain complained of is either radiating or fixed and in either case traced to the kidney or course of the ureter. There are bladder symptoms. There are changes in the urine in ninety-nine out of a hundred cases. There was not even a phosphaturia in the patient's urine.

The whole history, the symptomatology and the general behavior of the attacks pointed to serious trouble at the pelvis—and, after a bimanual examination with negative results, only one conclusion was possible to me: *Tubal pregnancy and tubal abortion.*

**Case 2**

Our correspondent says: "Now, with Case 2, we have a much clearer picture before us. There is no doubt in my mind of lung involvement. I have carefully noted all the symptoms and I come to the conclusion that the patient has, low down in the right lung, an abscess of small size, so much so that it will prove difficult to put the finger on the exact spot. I believe that this abscess is the result of the original infection of the appendix, and produced by an embolus.

"Such a patient, should be sent to the hospital, not only for observation but for temporary conservative treatment. While I would place the patient on sedative and expectorant mixtures to relieve the distressing symptoms, I would make extensive use of the x-rays in order to watch for an opportunity for surgical intervention."

We have another letter from a personal friend of mine, Captain S. (for which reason I shall omit his nosegays) whom I quote almost without a change of his phraseology:

. . . "It is difficult to make a definite diagnosis with the stated findings and without further detailed study. Although the symptoms show a chill, difficulty of breathing and pain in the chest, the general picture is one of sepsis and points towards abdominal pathology. To fulfill your requirements, I submit:

1. A tentative diagnosis of suppurative appendicitis.
2. The thorax should be radiographed and if negative findings allow us to exclude chest pathology, an exploratory laparotomy is indicated.
3. Prognosis depends on local pathology.
4. Exploratory laparotomy."

**Reply to Drs. A. and S.**

In my opinion, this case is so typical that I cannot understand how Dr. S. still considers abdominal pathology as possible. Miss A. suf-

fered from appendicitis a month ago, and her physician, who, by the way, is a highly intelligent and conscientious practitioner, could be assumed to have made a correct diagnosis with the history given. Now, assuming that the appendicial process had not permanently subsided and that we are now confronting an exacerbation, would the principal picture be such as to cause the attending physician sufficient anxiety to call you in with a view of operating for empyema of the chest?

We are at the bedside, we take nothing for granted, we examine with care and, what do we find? The patient has *no cough, no expectoration,* but, *difficulty in breathing.* If you look up the July issue of this journal (page 512), you will note that the examination of the abdomen revealed the liver margin below the costal arch. What do these findings mean?

No cough and no expectoration! Certainly, the lung, itself, and the bronchi are not irritated or involved; for, cough is nature's defensive measure against inflammatory or suppurative processes in and around the lung. I have two notes from our readers, which briefly allude to pleurisy with effusion. This, too, can be excluded. For, I stated (page 512) that auscultation showed vesicular breathing, fremitus, etc., virtually throughout and that, only low down, amphoric bruit was determined. The pleura, except low down, is not guilty.

What causes the liver to be so low? If this one point is thoroughly considered, in connection with the general picture of the case, I think one can hardly miss the diagnosis of a subphrenic abscess. Of course, the Roentgen rays should and actually were called upon to confirm this diagnosis. Without a word from us to the roentgenologist, he looked at his fluoroscope and told us: "There is an abscess right below the diaphragm."

We operated. The abscess was not as large as we had anticipated. The patient looked quite different on the third day following the operation, her face appearing radiant. Her physician informs me that her appendix has not "bothered" her since, and that, since the operation, he had delivered her twice, the patient having acquired an appendix in the form of a husband. Her own probably became obliterated.

I shall discuss subphrenic abscess in detail at some later date. It is an interesting topic. I have not always had cases as easy to diagnose as the one just mentioned.

I thank my correspondents and say to them: You will be heartily welcome whenever you come again!

**3rd Surgical Problem (Case 4)**

The following case presents no serious diagnostic obstacles, except that it may be difficult, if possible at all, to define the exact underlying causative (pathologic) condition. This difficulty is not insurmountable if exact attention is paid to the clinical history. Cases like the one described below are of vital interest to every medical man, for, the variousness of their character is tantamount to a life-and-death problem. Vacillation means death. Physicians and surgeons must be able to recognize the character of the trouble, at least generally, virtually at a glance, if they do not want the stigma of being responsible for the unnecessary and avoidable loss of a human life!

You are called to see a young girl, about 20 years old, who has been ill for about 24 hours and who appears gravely ill the moment you behold her.

You are told that she always has been in good health, except for an occasional attack of diarrhea. But she has had no such attacks for about a year.

Yesterday, she began to complain of sharp pains in the abdomen, the patient, on inquiry, pointing toward the left and above the umbilicus. The "rumbling's" in her bowels caused her a desire to have a bowel-movement, but she was unable to pass anything, even gas.

She vomited once and, after that, seemed to feel better. This morning, she began to vomit again, often and exhaustingly. The vomited matter shows bile. You note that the patient's face has the typical expression of a serious diffuse peritonitis. The pulse, easily compressible, is 140 to the minute. Temperature 97⅖° F. The eyes are sunken, surrounded by deep shadows; the nose is pointed and cold; cold sweat is observed on the forehead and hands; the tongue is coated, furred and dry, except at the margin.

The patient complains of thirst, but vomits as soon as she has drunk a few swallows.

The urine is scanty, highly concentrated. Later, you also find a trace of albumin and indican in it.

Abdominal examination reveals tenderness, pronounced tympanites, peristalsis of the bowels below the umbilicus is plainly visible. The palpating finger "hears" gurgling noises.

The solution of this important problem will be published in the October issue. This affords all readers an opportunity to participate.

Required:

1. Immediate, approximate diagnosis.
2. Immediate therapy.
3. Discussion of the cause of the trouble.

# The General Practitioner

**Talks About Professional and Personal Problems**
**Conducted by WM. RITTENHOUSE, M. D.**

### Vacations (Continued)

OF ALL the studies that give me pleasure when I go into the country, the greatest is Geology. The mention of the word conveys to most people a picture of an absent-minded crank with a hammer in one hand and a bag of rocks in the other, climbing about mountains or stone quarries, and boring his friends with long discourses on his fossil finds. Like many popular beliefs, this is a long way from the facts. It is true that one department of geology occupies itself with rocks and fossils, and it is full of interest; but the side of the matter that interests the everyday citizen is much simpler, plainer, and easier. It has to do with the surface of the earth, rather than with the rocks that form its crust. It is a combination of physical geography and glacial geology. It deals with the various interesting changes that are constantly going on in the features of the landscape. It is a subject that requires no special outfit, no hard, dry study, no instruments. It can be carried on from the window of a railway car, from the automobile, or while tramping on foot. It can almost be summed up in a sentence: "Observe the face of the landscape and ask yourself about each feature, 'How did this come about?'" Every hill, every valley, every lake has a story to tell. The actions of rain, wind, frost, snow, and ice have made the surface of the earth what it is. and the record is easy to read—the easiest of the sciences.

During the great Ice Age, this continent almost as far south as the Ohio River was covered with an ice sheet of coalescing glaciers, thousands of feet thick at Chicago, just as Greenland is today. It was a long period of such extreme cold that the arctic regions, or frigid zone, reached to the Ohio River instead of ending at the Arctic Circle as at present. Those glaciers have left their traces on the face of the country so plainly that the landmarks are visible on every hand. There is no doubt that the last Ice Age is still passing off, that is, the southern boundary of the arctic regions is slowly moving northward. For, the farther north we go, the plainer the glacial marks become. For example, on the north shore of Lake Superior and Lake Huron, the grooves and scratches on the rocks are much fresher than they are in the latitude of Chicago. A visit to Duluth and vicinity makes it plain even to the untrained eye that the glacier which scooped out Lake Superior was much more recent than the one which ploughed out a bed for Lake Michigan. Also, the great glaciers of Alaska have grown much smaller in the two hundred years since white men first visited them.

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To understand the remarkable work done by the ice in preparing certain portions of the earth for the habitation of man, it is necessary to bear in mind some facts about the nature and behavior of ice in large masses.

In the first place, ice is a fluid! We have been accustomed to regard it as a solid and, on learning to skate, if the back of one's head lands upon it suddenly, it certainly feels like a solid. But, in great masses several hundred feet thick, ice acts as a fluid in every respect—a very thick one, but a fluid, nevertheless. It will flow down a slope like very thick tar.

In the second place, great pressure will convert snow into ice. On the tops of high mountains where the snow never melts, it accumulates until its weight compresses the lowest layers into solid ice. Then this ice begins to flow slowly down. This is why every valley in the Alps contains a glacier which has flowed down the valley far below the region of perpetual snow. As it gets down into the region of warmer air, its end melts away leaving a pile of rocks and earth that it had carried or shoved along. Such a pile is called a moraine, and it is partly by these moraines that we can today locate the glaciers of ten or twenty thousand years ago. The Great Lakes were all formed by glaciers scooping out and enlarging old river valleys. After the ice melted, the hollows filled up with water. Each of the great lakes

has its moraine, many of them of great interest. The Great Northern Railway crosses the moraine of the Lake Superior Glacier about fifty miles southwest of Duluth. The Chicago and Northwestern Railway, between Milwaukee and Madison, crosses the moraine of the glacier that scooped out Green Bay. The Grand Trunk Railway, near Hamilton, Ont., affords excellent views of the moraine of the Lake Ontario Glacier. Moraine hills are largely composed of gravel and rounded boulders.

Wherever the bedrock is exposed, it is found to be covered with scratches and grooves all running in the same direction. These grooves are sometimes deep enough to hide the body of a man. They are very distinct at the Hawthorne quarries near Chicago; on Kelly's Island, Lake Erie; on the mountain back of Duluth; at Devil's Lake, Wisc., and on the north shore of Georgian Bay, where they are so plain that they can be seen from the deck of a steamer, both on the islands and the mainland.

These grooves and scratches are produced by boulders and smaller stones frozen into the bottom of a glacier. As the glacier moves along, these stones act like a carpenter's plane, cutting away the bedrock and leaving its surface grooved and scratched. At Killarney, on Georgian Bay, the bedrock is a reddish granite and is exposed. Just back of the village, some of the grooves are nearly two feet in depth. The mind is staggered in trying to imagine the tremendous weight of ice that would hold a boulder firmly enough to cut a groove of that depth in the hardest rock known. Geologists estimate that at this point the ice was at least three miles in thickness.

The rate at which a glacier moves depends upon size, slope and temperature. A large mass of ice moves faster than a small one; it moves faster on a steep slope than on a slight incline; faster in the day time than at night, and in summer than in winter, just as pitch softens with heat and hardens with cold. Some of the small glaciers of our own west move only six inches a day; while some of the enormous ice rivers of Alaska or of the Himalayas move from ten to fifty feet a day.

To make a beginning in this interesting study, it is only necessary to do a little preliminary reading in a suitable book, and then keep one's eyes open when in the country. An excellent textbook is "The Elements of Geology" by Prof. Norton of Cornell University. For the more advanced students, there are any number of books. A very excellent and complete pamphlet is Bulletin No. 1 of the Chicago Geographical Society, on the "Geography of Chicago and its Environs". If one desires information on any particular region in the United States or Canada, it can be obtained by writing to the Geological Survey at Washington or to the Canadian Geological Survey at Ottawa, Ont. Whenever I am planning to visit a new region, I write for the Bulletin relating to that region. The cost is but a trifle, and the interest of the trip is greatly enhanced. Few of us take advantage as we might of the knowledge on many subjects obtainable from government departments at Washington and at Ottawa. I am at all times glad to assist my readers in obtaining such information.

In the summer of 1914, I spent several days riding about the Province of Ontario in an auto with three farmers, studying the traces left by the glaciers. They were men of ordinary public-school education, and yet, when I showed them what to look for, pointing out the plain signs of the work of the glaciers, they became so interested that they have been enthusiasts on the subject ever since. I mention this incident to prove that one does not need a college education to study this interesting subject. One of them said to me lately: "To think that all my life I saw the most wonderful things all around me without ever thinking of what they meant." Another said: "I don't need to go away from home to study the wonders of nature. They are all around me, and I discover new things every year." Today, when I go into that neighborhood, I am frequently appealed to for the explanation of some feature that puzzled them.

### A Vacationless Summer

Reading "Maria Chapdelaine" has brought vividly back to me the memory of a certain summer long ago—the hardest summer of my life. It was a whole season of unremitting toil, six days a week and twelve to fourteen hours a day. It was toil, too, of the severest kind, in smoke, dust, and heat. In my boyhood, we had no vacations—in fact, we hardly knew the word. We went to school from November 1 to April 1. On the latter date, the school was closed for the summer, because there was work for all the children on the farm. The "terrible" effects of child labor had never been heard of! We grew up so sturdy, healthy and strong that our parents never suspected that they were inflicting a "great wrong" upon us! And I may remark in passing that most of us got more real, practical education out of those five months of winter schooling than the majority

of pupils do out of ten months at the present day. For one thing, we were glad when school began and sorry when it closed. We had the hunger for knowledge which is the one great essential in any plan of education. We were not surfeited. Then, too, the method was such as to develop individuality and self-reliance—to teach us to educate ourselves. Each pupil "ciphered through the book" for himself, to use an expression that we no longer hear.

My father had settled, in 1827, on a heavily timbered section of 100 acres. Each year he had cleared and brought under cultivation a few acres. When I was twelve years old, there was still twenty acres of forest besides a "slashing" or "new-ground" of eleven acres. This slashing was a piece of wet, marshy land on which the timber was of a kind that had little value either for fuel or other purposes. So, about eight years before, it had been "slashed;" that is, the trees had been cut down and left lying until decay should render them and the stumps a little easier to handle. When school closed in the spring of 1864, my father decided that he would devote the summer to bringing the slashing under cultivation, with the help of my brother aged 20, and myself. It was a big undertaking for two men and a boy—I was not quite twelve. Some idea of the situation may be formed when I state that the whole field was covered with a foot of water, and the trees lay so thickly across each other in every direction that a man could walk all over the field without wetting his feet, by stepping from one tree trunk to another.

As soon as the snow had melted, we first dug a ditch along one side of the field to draw off the water. The next thing was, to cut the tree trunks into lengths of about twelve or fifteen feet that could be handled. The smaller trunks were cut with an ax, the larger ones with a two-man crosscut saw. By the time this was completed, the ground was dry enough so that a team would not mire down. We depended upon oxen entirely that summer, because in such nervous work horses lose their heads completely. To pull on something that will not budge, to be snagged every few feet by the plow striking a root, or a stump, or a stone, to mire down occasionally, soon gets on the nerves of a team of horses, so that they either balk or get ugly-tempered. But the patient, plodding ox takes it all calmly as part of the day's work. He moves slowly but surely, and yet the amount of work he will accomplish in a day is surprising. If he has his rest, food, and water at proper intervals, he seems quite contented. In the morning, he will come when called, he will walk under the yoke when invited by either voice or gesture, and he will work all day patiently without bridle or rein to guide him, turning in response to voice, gesture, or touch. He quickly learns the meaning of words of command, and never loses his temper or gets excited. The only thing that will stampede him is a nest of hornets or bumblebees.

The logs were dragged together and heaped in piles ten feet high by means of skids, handspikes and logging chains. When they were dry, they were burned up. A hundred log-heaps on fire and lighting up the sky at night was an interesting sight.

The next thing was, to get out as many of the stumps as possible, so as to reduce to a minimum the difficulty of plowing. Now appeared the value of the time that had elapsed since the trees were cut down; for, all except the larger stumps were so far decayed that the oxen could pull them out with a log-chain. As we had neither stump-machines nor dynamite in those days, we had to leave the larger ones and plow around them. These were also an obstacle to harvesting for some years to come. We had harvesting machines, but stumpy fields had to be cut with a cradle. I believe cradling is the hardest work ever done on the farm, harder even than swinging the ax or pitching hay or grain.

By the time all the loose stumps had been pulled out and burned up, it was well on to midsummer. The winter wheat would have to be sown early in September, and it became a question whether the ground could be got ready in time. It would require three plowings and several harrowings to get it into condition. The first plowing was slow work. Every few feet, the plow would strike a root or a stone. Then, with pick and ax, the obstacle was removed; sometimes it took half a day to run a simple furrow forty rods in length. But all things have an end and, at last, the first plowing was finished. The second was crosswise of the first, and much easier. The third was quite easy and in the same direction as the first.

I said it was easy, but I should have excepted the stone hills. That country had at one time been covered by a glacial lake, and in places floating icebergs had grounded, melted away, and deposited their load of boulders, gravel, and earth, leaving rounded hillocks containing more stones than soil. There were two of these hillocks in our field, covering about half an acre each. The plowing of these was some-

thing to be remembered. The stones would throw the plow out every foot or two. My father was not a swearing man, but I think he was sorely tempted in plowing those hillocks. He said little, but the expression of his face indicated the thoughts that were struggling for utterance. We boys had less self control, or perhaps less conscience, and I am afraid that the recording angel's pen was kept pretty busy when father was not within hearing distance.

**Father Uses "Language"**

I can remember only one other occasion on which my father's self-control was so sorely tried as it was by the stones; and that was once when he was trying to put the head into an empty apple barrel. Any one who has ever tried to do this simple looking stunt will appreciate the situation. The head of a barrel is in three pieces. The first one goes into place easily; so does the second; but when one tries to spring the staves enough to let the third one into the chine groove, the first two fall into the barrel. A novice needs to have this happen about thirteen times before he learns the trick; and even an experienced hand at it may have to make several trials before he succeeds. We were putting the apple barrels away, heading them up to keep them clean and prevent the heads from being lost. There was one that was refractory. It had fallen in for me several times, and father undertook to show me how. It fell in for him five times and, a little nettled, he made the sixth trial with great care; but just as he thought it was in place, down it went. An exclamation escaped him, not a very bad one, but a forbidden one to us boys—one that, Mark Twain used to say, could be used by old ladies with perfect safety. He knew I had heard him, but he never referred to it but once, when my uncle joked him about it, and he remarked that he hoped his boys would never say anything worse.

To return to our field. By the first of September, we saw that we were going to win. We got the field sown a little late, but in time to grow a good top to the wheat before winter set in; and, the next summer, the rich, new soil brought forth a record crop that rewarded us for our toil.

**Benefits of Hard Work**

If this experience has any interest, it centers mainly about the question: What is the effect of such a life of hard work without amusement upon a growing boy? That experience was one extreme; the way children grow up now, is the other. Of the two extremes, the present-day conditions are the more harmful. A parent can do no greater service to a child than to have him learn early the lesson that life is a struggle; to learn to bear patiently toil and hardship when necessary; and to learn that amusement is not the main thing to live for. To grow up with the idea that the chief object of life is to have a good time is, to lay the foundation for failure. How often one hears a father say, "I am going to see to it that my children will not have to go through the hardship I experienced!" Foolish father! if he thinks he will promote their happiness by having them grow up in ease and softness, unfitting them for the hard knocks of the world. Let a child grow up without learning to work and with plenty of spending money, and he will be ruined unless he is a miraculous character.

I am thankful that my father made us work hard and made us earn our own spending money. He did it in a kindly spirit, explaining that it was for our good. We were not always convinced of this at the time, but he had vision enough to know that, some day, we would thank him.

Among my schoolmates there were several who had an easy time and plenty of spending money. Not one of them made a success of life.

2920 Warren Ave.

*"NO MODERN NATION can any longer remain apathetic to the vast potentialities of Chemical Science. There is no mistaking the fact, and it should be written large everywhere in these times, that Organic Chemistry is the Key to the World of New Values. And it is our good fortune that it lies so peculiarly to our hand to cultivate. We have facilities superior to Germany if we care to cooperate and run our forces together. The Textile trade is the great feeder for Dyes. Dye-making is the natural starting place, and has been the nursery for all the great chemical developments, developments that have been cumulative in their effects and given enormously enhanced value to industries widely diverse."*—Francis P. Garvan, in an open letter to President Harding, citing James Morton.

# Good Medicine

**Let us learn as we go, but not forget what we know**

**Conducted by GEORGE H. CANDLER, M. D.**

### The Etiology and Treatment of Flapperitis

A MOON or two ago, before the thermometer registered 98 degrees F. in Chicago and the bass were biting up in Wisconsin, I promised a worried and irate citizen that I would say something about "The Flapper" as such, and the general reason why—in my humble opinion, at least—this distinctly shocking, but, after all, rather interesting creature had developed, and how much farther she was likely to go. I wonder if it is really necessary to get personally all heated up and expand vital energy upon a subject which, in the last analysis, is not *my*, but everybody's, business.

However, as it is absolutely necessary for *someone* to say things in order to wake everybody up, I suppose I'll have to shake off the *ennui* engendered by a superheated atmosphere and become candid, critical and censorable. I add "censorable" advisedly, because we are, as a "people", sufficiently smug and hypocritical to shy (or "skid", to be more up to the minute) whenever sex questions are intelligently talked about and, if the Flapper and all that pertains thereto isn't distinctly a "sex question", what in the name of Ashtaroth is she—or it?

Though, perchance, you may not at first see the connection, I would call your attention to the fact that, of late, you have been hearing quite a good deal too much about certain middle-aged (or worse) gentlemen who had been undergoing operations designed to "restore faded tissues" and bring back the friskiness of youth. Long, long ago, Ponce de Leon and others sought earnestly, but, alas! vainly, for the "Fountain of Youth", being entirely ignorant, poor males, of the first principles of endocrinology and the potency of transplanted Leydig's cells. Naturally, then, perhaps, today, those superardent males who have lived and "loved" for pretty nearly their allotted span are burning with a desire to go over the primrose path again; for it is obvious to anyone with any vision at all that there are more primroses within easy reach than there ever were. Moreover, instead of being modestly hidden behind *some* foliage, as of yore, they flaunt even more delectable blossoms on long delicate (more or less transparent) stems—and almost insist upon being plucked. No wonder that the millionaire, whose hair is grizzling, pays tens of thousands of dollars to have an "interstitial-gland" operation. No wonder that he hopes he may thus be able to "sit up and take notice" for yet a few more moons.

And, no wonder the business and professional man in more moderate circumstances writes checks in four figures, payable to the order of surgeons of-a-sort who graft slices of goat glands into his muscular tissue and promise him that, IF the graft takes, he will be as capable as Capricornus himself: And, be it remembered, *he* is distinctly able in his field. It is perhaps needless to state that the graft "takes"—takes very well, indeed, and the graft*ers* flourish exceedingly. The graft*ees*—modest souls that they are—don't tell us very much about *their* "subsequent condition". Probably there isn't *much* to tell! But it is safe to say that there is a very intimate connection between the Flapper and these gentlemen—indeed, if you will just be calm and reason things out, you will come to the conclusion that both are merely animated by the well known cosmic urge, with the safety valve—placed thereon and heretofore functioning for the safety of Society—blown off as high as Gilroy's kite. And, that attained *some* elevation!

"Oh, come now," some bright and conservative reader will say, "it isn't as bad as all that! Our girls may be flippant, but they are not flirts. They may be precocious, but they are not predacious. They may be bobbed and 'roll 'em' and wear just two gossamer garments, and they may dance rather erroneous, close-clasping dances, to rather erratic (or erotic) music, but that is all there is to it. They are just as 'nice', really, today

as their mothers or grandmothers were, and the men, generally, approve of them, or they'd be different".

Now, I am perfectly willing to admit that these girls are as *nice*—in a sense—as were any of their female ancestors—nicer, in fact, *much* nicer in the eyes of the male of 1922. But, they surely do lack reserve and, as a class, it must be admitted that they *are* flirts and *are* predacious, and that, in securing the "good times" they deem essential to their happiness, they are not very particular as to who pays the fiddler temporarily; neither, unfortunately, are they always discreet enough —being distinctly human—to avoid paying the *final* heavy reckoning themselves.

It is true that the "flipper Flapper" (if I may coin a term) is usually reasonably "well posted"—indeed, most of them know more than both their poor dear grandmothers together did when they died. Nevertheless, every now and again they come down with a crash that rocks homes and reverberates through their neighborhoods. And, of those thousands that merely *slip*, we hear nothing. But, unless we wish to emulate the ostrich and hide our heads in the sand, we must know that the crashes are becoming more and more frequent, and the "slips"—the unrecorded departures from the narrow white way, are so common as to attract no particular attention.

The burning question is, WHY?

To find the answer, we must go down to the very root of things. Let us, first of all, then, admit that, since the beginning, the call of sex has dominated humanity. Let us be honest enough to shut our eyes and go back over *our own* lives—especially, the adolescent period. Let us recall the at first vague longings and unrest, the furtive peeps into Nature's mysteries, then the wonders of our "first love" and, perhaps, the still greater marvel of ultimate revelation! Of course, there are those who will claim (a few honestly) that never, No, NEVER, did they have undesirable thoughts even, much less *do* things they would not do in the public eye, or at a Church Strawberry Festival. To such I bend an attentive ear and will even admit that Strawberry Festivals had a charm of their own: They ended ultimately and one had to go home! Thinking (with your eyes shut and your fingers crossed) earnestly of your past sex-experiences, will you not be at least candid enough to acknowledge that there was a time—just when you were wearing those first long pants or dresses—when nothing but the conventions and the oversight of Pa's and Ma's (to say nothing of Aunts, Grandmothers and interested neighbors) kept you from finding out a whole lot more than you knew (for sure)? Isn't it possible that, if you get your recording apparatus working properly, you may even recall some very, very close calls you had—how close, you, some *One* else and the Almighty alone know!

Then, too, don't you remember that certain books were not allowed in your house? Isn't it a fact that, if, in those days, a girl showed a little too much of her anatomy, or was known to have kissed (in semiprivate) a male or two, she was spoken of disparagingly—even, perchance, being called a "brazen hussy"? Wasn't the great city a "wicked place" and the "painted woman" a thing not to be spoken of before nice females? Would you, if a man, have selected as *your* bride the girl who came in from buggy rides *à deux*, two or three nights a week at 1 or 2 a. m.? Would you have gracefully overlooked as a "slight indiscretion" the parking of Anna Arabella and some visiting salesman out in the swing till midnight and would you really have liked to see the woman who is now the mother of your children dancing very, very intimately with Jack, Tom and Harry to the wail and toot of the saxophone, and disappearing later into the shadows to there partake of "hooch" from a pocket flask? *Would you?*

If you had gone to a play with your girl and she had witnessed with approval, or even perfect equanimity, the sort of thing our screen stars are giving us today, wouldn't you have thought that she might stand a good deal more? Indeed, as a matter of fact, wouldn't you probably have been excited somewhat yourself and, incited by such excitation of a perfectly natural impulse, endeavored to see just how far you could go? And—if you will be really frank—don't you feel that, if you had succeeded easily (as you well might, the excitation being dual), you would probably NOT have married that girl? Yes, of course, someone else would, or might have, but —but—well, do you in your soul think that *he* would have had a fair deal?

Now that your memory is working, may it not be possible that you recall knowing a lot of "nice girls"—with whom you would no more have thought of taking liberties than of tickling your angular maiden aunt, Ruth—and then a few, just one or two, "easy" ones? The latter were very nice to play with, but you played by stealth and took particular pains not to get *your* name bracketed with theirs. You didn't play quite fair even then, did you?—

still, did the male *ever* play quite fairly with *all* females? I wot *not!*

Well, anyhow, there were various bars, barriers and conventions to observe and the girl was guarded from undue intimacy with members of the opposite sex and taught and retaught that there were certain things nice girls didn't see, hear or think about—unduly, at least. Therefore, "nice girls" went along in a more or less innocent fashion, doing occasionally, with great secrecy and many blushes, little experimental things which didn't really hurt them, and ultimately they fell in love with and married some desirable (or undesirable) man. Anyhow, they were "safe". They had played the game according to the rules and were now Honored Matrons—permitted, all of a sudden, to say and do things which had heretofore been anathema. And it has been my experience that, the more they had heard and seen before they were matrons, the more dragonlike were they towards their growing daughters. Thus—with here and there a slip, with now and again a broken heart or home and, still more rarely, a tragedy—the sexes moved along and there was MORALITY, as we term it.

Today, and for some time past, the bars have been let down, the barriers removed and the conventions almost totally disregarded. The cry for "more liberty" has been answered by *License* and youngsters of fourteen are not only thoroughly sex-wise, but sex-excited, day in and day out. The esteemed "family paper" gives them every filthy scandal for breakfast. More dirty details are dished up in the evening editions. The ranker the "movie", the greater the crowd of girls and boys in attendance; the more syncopated and seductive the jazz music, and the more salacious the dance, the more popular the resort. The Eighteenth Amendment may have reduced the number of beer halls, but it has caused the pocket flask of villainously bad liquor to flourish throughout the land and, unhappily, the "up-to-date girl" thinks it is "smart", very, very smart, to carry one herself or command the attentions of some "feller" who can produce it. Fed on such material, is it really any wonder that the Flapper is more inflammable than is desirable—is it really surprising that she becomes more or less *blasée* before she reaches maturity and is ever seeking new thrills, new *sensations,* stronger emotions? If such be the case—as it IS—are we such utter nincompoops as to be "astounded, grieved and heart-broken" when the inevitable happens—or some girl, who should have been guided and guarded through a very dangerous (for her) period, escapes public obliquy by a hair's breath?

Can't we look back and realize that, if we (YOU, Sir, or YOU, Madam) had the present opportunities for gratifying certain "vague longings" we experienced (yes, we've all had them), we would probably have done so? Can't you grasp the fact that those desires and "peculiar sensations" which assailed *you* were kept from becoming overwhelming only by the conditions under which you existed and that this generation has just the same natural sexual urge, intensified a thousand times by the things which surround it? If you are still "alive," have any real doubt upon this point, and desire to *know* what the Flapper has to meet, or is doing, "doll up", swing round the circle a time or two and see what happens. Just go the gait you are permitting Clarice or Juanita or plain Jane to travel, for one short week, and you'll either be lost yourself or will go home and shorten the reins—to say nothing of lengthening and amplifying other things!

Bear in mind, please, that, not for one minute, am I championing ridiculously long skirts; not for one moment, even, would I suggest that flesh colored or rolled stockings are a sign of immorality. But I do assert that the latter—to say nothing of gossamer body covering—are inflammatory stuff, not with safety to be allowed in *too* intimate contact with a healthy and active male—to whom, also, "the barriers are down!"

Just *why* we are witnessing this reversion to Nature, I am not prepared to state definitely. There have been many causes. Doubtless, the Great War and the sentimentality it engendered among the female population of this GREAT and GLORIOUS COUNTRY had much to do with it; but things were moving rapidly along before war was declared. Our songs were becoming distinctly suggestive before "the boys" required every consolation; our fiction was getting more and more erotic and nauseating even before the first rumble of trouble came from "over there", and our "music(?)" and dances have for years been taken pretty nearly bodily from localities of extremely unsavory repute. It has occurred to me that, if the tango, maxixe, toddle and "walking the dog" had not achieved such a vogue, there would be fewer broken lilies in the field, and I am quite sure that if "Oh Johnny, How You Can Love", "You'd Be Surprised", and the host of similar beastly songs set to catchy, trashy airs had not been

tolerated by "nice" people, an uncountable number of unfortunate things which have happened would not have taken place. "One can't touch dirt and not get defiled" and one cannot forever see things, hear things or feel things which are suggestive without ultimately yielding to the suggestion. At least, you can't if you are normally constituted. Just how "normal" you'll be after yielding a few times to abnormal stimuli, is a bird of another color entirely.

Thus, one comes back to these fundamental facts: (1) The Flapper is a growing female playing Sex for all it is worth. Some of them of course don't quite comprehend this—most of them do. (2) The Flapper is a product of parental indifference—or ignorance of the ostrich-like variety. (3) The Flapper exists only because the Safety Barrier has been let down and she will continue to flourish and become flipper till it is readjusted.

Just *how* it is to be replaced or who is to do it, is a serious question.

The *young* men—naturally enough—temporarily think that she's a "cute proposition" and—it is an awful thing to state—even the older fellows seem to think her "pretty nice to have around", provided, of course, that members of their own particular families are not included. Indeed, so "liberal" have become the views of a whole lot of fathers that they fail to sense the danger their *own* darlings are running, blandly announcing to the world that they "believe in letting every one have a good time." Of course, THEIR girls know exactly how far to go and can stop off any place they want to. And THEIR sons?—"Well, well. Boys will be boys and must sow their wild oats". This, seemingly oblivious of the fact that wild oats must have a field to be sown in—and that that field may chance to be on the old homestead!

Too much money, too little reading and thinking, too much desire to have "a good time"—to experience emotions, to "get thrills"—too much tolerance of unmoral things around one, and too much nervous tension generally—these are the things which create the domestic and community atmosphere in which Flapperism can not only exist but will thrive. Those parents of growing girls and boys, who are still healthy and virile, are the only ones who can properly sense the vicious dangers their children are facing each day and, if they will wake up and act generally, the next generation will have better mothers than they now seem doomed to get and oceans of tears will remain unshed. Incidentally, a whole lot of money, which will otherwise inevitably go to the medical profession, will remain in the family exchequer.

Here arises the question: Just what or how much can the Physician do to arrest the disease? In my opinion, he can do a very great deal. In the first place, he can seize every reasonable opportunity to impress upon the parents of children the fact that a girl is a female and therefore a potential *mother,* and the boy is a male and therefore a potential *father;* that—inhibitions removed and constant sex excitation permitted—they will both seek to fulfill their mission at the earliest opportunity—if not "within the law", then without it. Instructed sanely and then guarded, unobtrusively but effectively, through the formative period, they will—or a majority of youngsters will—reach the marriage state reasonably perfect. Allowed to run loose with imperfect knowledge or told only half-truths in a shame-faced or suggestive way, their sex instincts will become sharpened and, when the urge comes—as come it must under existent conditions, they will yield easily, if not eagerly. Therefore, a thoroughly instructed parent may mean a wise and protected child.

Then, too, the doctor, better than anyone else, can impart information to children and young people themselves. Things that he will tell them (if properly told) will be remembered, when maternal or paternal admonitions or scoldings would be forgotten. It seems ridiculous to state that the average family doctor will talk to Mary about the condition of her bowels and flinch from telling her other things which she needs very badly to know; but he will! He will treat William John's acne or give him iron and strychnine to relieve his anemic condition, and say never a golden word as to the probable cause. Much less will he, unless distinctly asked, impart other and more vital information which might not save William alone much pain and trouble but might protect some "perfectly sweet girl" in the neighborhood from even more distress.

The Physician and the Parent, then, are the only instruments which can be effectively used to check the present unmoral trend, and I am of the opinion that, if the parents will give the physician even half a chance, he'll put such a crimp in William and Jane that the one won't care to go with, or the other to be, A FLAPPER.

After all, "real girls" are a whole lot nicer—especially if you have to live with them "for keeps".

# Let's Talk it Over

## Cases From Practice

WHILE it is pleasant to report successful cases in which the odds may have been greatly against us, still we may gain much by a review of some of our unfortunate ones. It is very easy to look back after the thing has happened and see what we should have done but, how few of us have this foresight? I recall a case, occurring in my practice years ago, when trained nurses and hospitals were few and when we took greater risks in private practice. It was a time when the greater part of surgery, major and minor, was done in the home of the patient. The case to which I refer was one of the unexpected and unfortunate terminations of a promising beginning, and I will give its details, that we may study it from the other angle.

The patient was a man of perfect physique and apparently without any defect in any of his functions, with the exception of the tight, inelastic fibrous stricture in the penile urethra for which he sought relief. He was about thirty-five years of age, a lawyer by profession, but came to Richmond and accepted some temporary situation in a semiprofessional capacity to allow him to stay here until he was cured of his trouble. He occupied rooms with a private family and his mother had come from her country home to be with him while he remained in the city. His stricture was one of the exceptions where the electrolytic method was unsuited unless a great length of time was taken for the cure, and he finally asked me to "open him up in the quickest way I could."

As he had such a dread of the urethrotome, I decided to divulse the stricture, which seemed to satisfy him. I appointed to be at his home the next morning at eleven o'clock with a friend and do the operation. Considering the short time required to break up the stricture, I decided to give him a little morphine an hour before operating and a drink of whisky when I got there. Therefore, I gave him two hypodermic tablets of ⅙ grain of morphia, telling him to take one at ten o'clock and when I got there, at eleven, he could have a stiff drink of whisky and would be ready for the operation.

When I arrived, the next morning, he had taken the morphine tablet and, after a drink of whisky, with the assistance of a friend, I divulsed him so as to permit a 30. F. sound to pass. There was no hemorrhage of any consequence, just a little stain on the instruments, and the patient had no shock or depression while we remained with him, which was an hour after we put him in bed.

As we were about to leave, he said that he feared he would have pain after a little and that he would take the other tablet of morphine then. This contained only ⅙ grain and I told him not to take it unless he did suffer later on. I never knew whether he took it then or later or that he took it at all. I never left a surgical case with more certainty that the results would be all we could wish for than this one. His mother was left in his room and told to notify me at once if any chill or other symptom was observed. I promised to see him at seven in the evening.

About dusk, a man came running into my office and asked me to come at once to see Mr. K. (my patient), as they thought he was dying. When I reached the patient, he was in deep coma, cyanosed to a damson purple, pupils contracted to pin points and respirations reduced to a few gasps per minute. He was dead in five minutes after I reached him. There sat his aged mother weeping as if her heart would break, and the usual number of the curious who rush in unbidden where sudden death occurs. I suppose there were a dozen or more strangers at this dead man's bedside, and everyone was wondering how he came to his death so suddenly and mysteriously. Finally, one of them asked me outright if I knew what caused his death. I have had but few experiences in a long practice more trying than this unfortunate case; for, while no one openly said that he died from any fault of mine, it was plainly intimated that it was strange that he died so soon after the operation.

I could get no information from anyone concerning the advent of his alarming symptoms. It seemed that his mother was the only one with him from the time I left him until they rushed off for me, fully six or seven hours later. She explained that he fell into a sleep about two hours after I left. As he seemed to be resting so well, she did not disturb him. Only when she observed his loud snoring and his face turning purple, did she become alarmed.

I told those standing around that his death was inexplicable; that he died apparently from some narcotic poison, and that, if he took the second tablet of morphine, making only one-third of a grain in six hours, that quantity should not have had any bad effect. But that, if he had an idiosyncrasy to morphine, even this small quantity might have killed him. I told them that I fully believed that he died from some narcotic poison that he had taken in a large dose, but certainly not from the trifling quantity given by myself. My friend, the late Dr. J. R. Nalle, who was present, insisted that the small quantity of morphine given was not worth considering as a possible factor in his death, that the man had gotten a large quantity of some narcotic and overdosed himself. I felt badly and knew that the impression was that I had made a mistake and given the man that overdose. I felt sure that his mother was concealing facts that would have cleared up the mystery and would have relieved my mind greatly and placed me in a different light.

A month later, when the case had been much talked of to my disadvantage, the gentleman in whose house the man died came to see me and said: "You have suffered too much by the suppression of the truth, and I am going to tell you what killed K." "After you left he sent out and bought a quart of French brandy and drank nearly all of it; and that's what killed him."

This poor old mother knew of her son's weakness, probably had no idea of the quantity of brandy he had taken, and tried to hide his condition until it became alarming. Even after death, she kept it a secret when she should have told the truth as a matter of justice to me, at least.

When in quieter moments I reviewed this case, I saw where I might have acted very differently and probably saved a life and saved myself much useless worry.

In the first place, I owed no explanations to a group of gaping bystanders as to the cause of the man's death. It was a mistake to have admitted that he possibly died from morphine administered by myself in such a dose. It would have been better to have said that I did not know.

Again, I never should have left such a case except in the hands of some responsible nurse or attendant immediately after an operation of this character.

The most serious mistake that I made was in thinking too much of the feelings of the old mother to ventilate the facts fully and let the public know them. My reputation suffered greatly in certain quarters by the suppression of the facts, and I regretted afterwards that I had not reported it to the coroner to ascertain the cause of death.

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Many years ago, I was called to see a case in which sudden death, for a while, placed me in an awkward position until I made an autopsy and cleared up the mystery.

During a revival meeting among the colored people, a middle-aged woman was suddenly taken with agonizing pains in the abdomen and carried to her home, a few blocks from the church. I was with her in a few minutes after she reached her home and, as usual, she had quite a crowd in the room who had followed her from church and run in from nearby homes. The druggist filled my prescription for a mixture of Liq. Morph. Sulph., Hoffman's Anodyne and tinct. capsicum. I gave her one dose at once; she made a few gasps and died within ten minutes after swallowing it. By the time she was dead, I suppose there were thirty or more excited Negroes in the room and on the stairs leading up to it. They had just been listening to the haranguing of the Negro preachers going through their characteristic preaching and chanting, and they were very ready to respond to any suggestions as to the cause of this sudden death immediately following a dose administered by me. This happened to be a case that did not surprise me much by its sudden termination, as I saw that the woman was suffering intense agony but was almost pulseless, reminding me of one dying from internal hemorrhage. I had had no time to make a diagnosis before she died. The husband came up to me and asked me in a very rough manner what had I given his wife. About the same time, I observed two policemen wedging their way through the crowd towards me. And I heard some one say, "Don't let him get away." It began to dawn upon me that I was surrounded by a decidedly hostile set of Negroes, who, if they lost their reason, might do me personal injury. To

my surprise, the officers asked me to tell them the circumstances of the peculiarly sudden death and if I had the bottle of medicine from which she had taken her single dose? Fortunately for me, I did not lose my self-possession, and told them that they had no earthly business in that room and that their questions to me were out of place and impudent, but as they were there, they might make themselves useful by dispersing the crowd that filled the place. When the house was cleared and quiet restored, I would be glad to have their services in helping me to clear up matters. They took the matter sensibly and, after dispersing the crowd, said they were at my service. I determined to settle the cause of this woman's death definitely, so that there could be no possible doubt as to the part my dose played. I called her husband and one or two other adult members of her family together and, with the two policemen present, told them that, from what I had seen and heard from those present when the woman died, they had associated her sudden death with the medicine I had administered. The husband said: "I believe what you gave her killed her." He appeared in an ugly mood more than grieved; and I told him I intended to find out just what killed her so that we could both know. I demanded the privilege of making an autopsy, to which he objected, saying he was not going to permit his wife to be mutilated. Finding that I could not persuade him to allow the examination, I told him that I would have it done by the coroner if he did not consent to my making it. To prevent this, he agreed to let me make the autopsy.

I asked the assistance of two medical friends who promptly responded. There is a class of people who are always ready to seize upon any pretext to sue a physician for malpractice for the money that they may make out of honest and unsuspecting physicians, and this man filled the bill to a dot. I therefore took up every detail bearing on the case. The first thing I did was, to send for the druggist who filled the prescription. I asked him to bring a copy of the prescription and a graduate measure. The druggist recognized the bottle as the one he had filled, read out the formula, and pouring the contents into his measure stated that only 2 drams had been used, and that that dose only contained ⅛ grain of morphine and 30 drops of compound spirits of ether. It was apparent to all that the medicine had nothing to do with the woman's death—the dose being very moderate and the time not having been sufficient to allow even absorption.

The short time that the woman was under observation before she died gave the impression of a person dying from hemorrhage, or shock. Pupils were dilated, circulation rapidly failed and features were suddenly shrunken. The husband remembered that she had complained of a dull aching and weighty feeling in her left iliac region at times for a year or two. Hazarding a guess, I told them that I suspected the rupture of an aneurysm and death from internal hemorrhage in the abdomen. Upon opening the abdomen, we found it filled with blood and an old aneurysm of the internal iliac on the left side which had ruptured and caused her to bleed to death.

I am positive that, had I neglected to take this case at the start and clear it up fully, I would have had much trouble and at least unpleasant notoriety. The shyster lawyer follows these possible chances as the buzzard follows the scent of carrion, and there is but one way to handle them, viz: by ventilating everything and concealing nothing. Meet the charges, direct or implied, promptly and settle them by autopsies made by yourself and friends, or have the case decided by a coroner's jury.

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*Obstetric Cases That Ended Badly.*—The practitioners of olden times met with many obstetrical disasters that present-day discoveries have made impossible to occur with ordinary care on the part of physician and nurses. I have often wondered how in the olden times so many women in the absence of all precautions made such safe deliveries, and on the other hand how the best-managed cases were swept off before our eyes in spite of every effort to save them.

A Case of Immediate Infection.—I recall having gone with a medical friend directly from a case of scarlatina, that I had seen in consultation with him, to a labor case. The woman was a primipara and in splendid condition, and the labor was as near normal as I ever saw. The next day, she had one of the most typical cases of scarlet fever I ever saw and was dead in 48 hours. It was not a pleasant thought that we had been directly responsible for this young woman's death by carrying the infecting material to her in the most direct manner. At that time, we knew the dangers of going from a case of child-bed fever to a parturient case. This unfortunate case taught us that the acute infectious diseases could be communicated and intensified in the parturient

woman with rapidly fatal consequences. After this experience, I made it a rule never to go directly from any case of measles, diphtheria or scarlet fever to any labor case, and, many times, I turned such cases over to some medical friend rather than jeopardize them to what I considered real risks.

Postpartum Hemorrhage.—I have in mind a case showing how quickly a patient may be lost from postpartum hemorrhage: I was hastily summoned to the aid of another physician who was attending a woman in confinement within a block of my office. Upon entering the room, I saw an elderly physician standing in the attitude of utter helplessness by the bedside of a woman who was exsanguinated and gasping her last few breaths. She was lying in a pool of blood and had simply bled to death before the old doctor knew she was bleeding. I learned from him that, after tying the cord and awaiting for expulsion of the placenta, he had left her alone and spent ten or fifteen minutes trying to get the baby's respiration started properly. When he returned to the mother, he found the afterbirth partly detached and the bedclothing and mattress saturated and the poor woman in a state of syncope. In his excitement, the only thing he could think to do was, to send for me and squeeze a lemon in the vagina.

When the old fellow asked me if I didn't think her death unavoidable, I did not have the heart to tell him the truth. The man, who leaves a woman after the delivery of the child until the placenta is delivered and the womb well contracted, is guilty of criminal negligence.

It is the unexpected and unusual that catches the doctor off his guard and results fatally before he gets his wits together. Years ago, when we paid less attention to the patient's condition before delivery, we had puerperal convulsions oftener than now, and they were always very disconcerting to the inexperienced physician. A young medical man of my acquaintance had just delivered a lady and was removing the placenta, when she suddenly went into a strong convulsion which deepened into coma and from which she died in a few hours. It seems that she had not complained of headaches—had no edema or other evidences of kidney involvement; but, upon analysing some urine passed a few hours before, the test tube was fairly blocked with coagulated albumen.

I am satisfied that, if her urine had been examined during the last three months of pregnancy, she might have been saved. Of recent years, physicians insist, justly, that they be informed early of the occurrence of pregnancy, and that the patients' report to them at stated intervals. That is as it should be. Antenatal care of pregnant women makes for lessening their own mortality rate and that of the babies.

C. A. Bryce.

Richmond, Va.

## THE ART VERSUS THE SCIENCE OF MEDICINE

Today, more than ever, men who really know and appreciate are convinced that we shall be far more useful in preventing disease than in curing it. This applies not merely to individuals but, in a wider sense, to communities. I am not having in mind now the very great and remarkable accomplishments of the Rockefeller Foundation in regard to the hookworm disease, malaria and much besides. I am simply considering the ordinary ailments that afflict most of us, at one time or another. Some of these, indeed many, come and go, and a few days see the end of them or they become rapidly or gradually worse, and we are then up against diseases such as pneumonia, pleurisy or the more lasting or chronic ones like Bright's disease or organic cardiac affection.

Now, it is all important, as is recognized at present, to find out as soon as possible, what are the beginnings of the latter and to ward off or prevent their development, if at all possible. To whom does this all important role properly and rightly belong? Is it not, as Dr. Mackenzie has stated most forcibly, to the general practitioner; because he it is who has to care for these diseases at their start?

In the beginning, patients do not go to hospitals or, as a rule, even to dispensaries. Surely not (even to the latter,) unless they are poor, unoccupied and especially nervous. But, both classes, rich and poor, if they are ailing for a few days without appreciable bettering, go to see or send for a physician. This physician may not be, probably is not, versed in the latest expression of scientific or laboratory research, but he is the one who practices medicine for a living and, if he be a careful and intelligent man, he is apt to know very soon, by reason of manifested symptoms, in what direction the morbid trouble extends. It is not, as I believe, at all required, in the majority of cases, to seek information from fashionable group medicine of today, even if it can be had at a relatively moderate price. On the contrary, to attempt to get it would be ill advised and, if obtained,

would result more than likely in making the patient unduly apprehensive of the present or future, and all this to no good or useful purpose.

If the practitioner desires to have counsel, he can almost always get it and, when he selects a consultant, he will surely have the one that to his mind best fills the requirements of the case.

I might extend my remarks much further, but by so doing I would not increase their influence which, I trust, may be real and beneficent.

BEVERLEY ROBINSON.

New York City.

## ABORTION AS VIEWED BY THE LAITY AND BY PHYSICIANS

Recently, a long-time subscriber to CLINICAL MEDICINE, a physician of over seventy years, sent us a letter which he had received from a woman who feared that she was pregnant and, desiring no more children, for economical and other reasons, asked the doctor to "keep her regulated." The doctor kindly permitted us to print this poor woman's letter and, also, the letter which he sent to her in reply, hoping that it might do some young fellows good and encourage them to do the right thing. He adds: "If I am not mistaken, the tendency of the times is, to have fewer children born, and many women in similar circumstances to those of my correspondent commit wrong rather than right. Of course, I am not blaming doctors for all this, but many are willing to strain their conscience quite a bit so as to gain patronage and popularity. It is my observation that many who have little hesitation to commit crime are the most popular, especially with young married couples."

We wonder whether the last assertion is justified by facts? It would seem to us as though women, and married couples, who have employed a medical man to produce abortion, except for legitimate cause, would be more apt to look askance at that man and would not care to have him as their family physician; no matter how much they desire his services in the one respect. However, we will let our old friend and his patient have their say. Both letters printed below carry their impressive lessons.

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The woman's letter is as follows:

"Dear Sir: I do not think I'm in the family way but, of course, I do not know. I should like you to keep me regulated, if you will. People have told me of different things to do, but I had rather listen to a doctor for fear of injuring my health.

"I do not want any more children, for I have all I can take care of.

"If you want the case, that will suit me all right, as I prefer you to any other doctor; but, if not, all right, too. I know of another doctor that would be glad to give me this kind of treatment. He lives in our town.

"For the last two years, I have worried for fear I would conceive. But, now, I am going to place myself in the hands of some doctor that, I think, will deal honestly with me."

MRS. A. B.

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To this letter, our friend replied as follows:

"I am sending some pills which will assist nature in regulating you if you are not pregnant. I trust, for your sake, that you are not pregnant for, I suppose, it is as you say, that you have as much family as you can well care for. But, my dear woman, when you think that I willingly would commit murder by taking the life of an undeveloped impregnation, I am sure you do not mean it.

"I look on this matter in a far more serious way than many others. In the first place, it is wrong in the sight of men and of God. This is His means by which our race is to be propagated; and, as I see it, when the thing is done and a babe is started, it is in the sight of God as much a babe as it will ever be; and, for you to want some one to take the life of this little innocent one, of which according to nature you are its only protector, is such a sin that, after taking a second sober thought, you would never consent to have it done.

"I know, as you say, we have a man in town who, it has been reported, has been guilty of committing this heinous sin for a few paltry dollars. But, would you want to entrust your health and even your life in such a villain's hands? I have been hearing many things concerning his awful acts which, if true, will certainly condemn him to the Bottomless Pit.

"From my slight acquaintance with you, I have placed you in a different class and, surely, you would not want to place me in a class so low as this man's. I am sure, too, that, after thinking this matter over seriously and conscientiously, you would hesitate to place your health and future happiness in the hands of such a one. He who has no regard for the life of unborn helpless human beings would have light regard for you.

"If I had the opportunity and time to relate to you what I have not only seen but actually passed through in cases of this kind, I am sure that I could impress you so that you never

would let such thoughts as you have been recently harboring even find a lodgment in your mind.

"I am most sincerely your friend."

X. Y. Z.

## ALWAYS A STUDENT

You will certainly lose out in the successful practice of medicine unless you have a definite determined purpose and plan for continued study. This represents a sincere conviction and is as carefully written (or more so) as though it appealed to an audience of 500 instead of to you alone. It is as though we were on opposite chairs in your own office, Doctor.

Your basic, general education in medicine is for one purpose and one only; that you may specialize on the individual patient. Every actual patient is, or should be, considered a full clinic for your study of his history, diagnosis, prognosis and treatment.

Of course, you will study your individual patient, but, right here, we insist on advance work looking to the perfection of those niceties of diagnosis which make the accurate selection of the correct therapeutic measure and remedy a near certainty. We feel it worth while if this article will convince one man of the importance of this; if that man is you. But, back this up, Doctor, with a determination to spend a definite thirty, forty or sixty minutes daily, every day, come what may in your study. A habit so formed will surprise you in the knowledge gained, confidence established and desire for more, so that, before long, your study period will be lengthened.

So much for the broadening student work. Now, for intensive work. With each patient as a clinic, we turn from the theory of the book to the attractive practical study of the patient.

Let us begin with the simplest of conditions, because so easily demonstrated, namely, fever, as probably the one pathological symptom that is met far oftener than any several other symptoms.

What a picture is brought to your mind by the reading of the thermometer! Consider the blood vessels, tension, pulse, dilation one place, contraction elsewhere and in corresponding volume. How about the heart and the mental and nerve condition? Study the associated gastrointestinal tract under the distinctive influence of the fever. Your diagnosis will have pictured to your trained mind such other pathology as you know to be part of the condition.

Now, parallel all this with you theoretic therapeutic knowledge and make the case a study in applied therapeutics. Do as they always do in the laboratory where they want definite therapeutic facts and exhibit the active principle, never the tincture or fluid extract. Begin with a definite, known and scientifically accurate alkaloid and, side by side with the various signs as already discovered and recorded, push the dosage as to frequency, method of administration and amount on a basis of the only thinkable foundation, *quantum sufficit*. If the work is new to you, it will open up avenues of delightful study.

Whether your selected remedy be aconitine, gelseminine or veratrine, you will profit largely by your attitude prompting the study. The absolute demands of the situation will be satisfied with nothing less than the best in you of thought, knowledge, judgment and time. If you see one patient an hour, it is worth all it costs; for, after you have mastered what is to be learned of one drug, you will have established the right to be known as a student and purchased the habit that will make you a better physician and an ultimate success.

Anything is worth it that establishes in you a confidence in your materia medica; since this enables you to approach a case with the assurance based on proven study that such and such a drug will positively do so and so.

As soon as you establish a determination to be always a student, you have laid the foundation for a successful future.

Frank B. Kirby.

Chicago, Ill.

## "WHAT DO READERS WANT?"

Your little editorial under the caption "What Do Readers Want," in the June issue of this Journal, calls (it seems to me) for the answer: "Just about what you are giving us." So completely had our wonderful leader, Dr. Abbott, surrounded himself with trained and able men, that his passing was unnoticed so far as the make-up and policy of our magazine is concerned. How different from a popular eastern publication, which has become flippant in tone and trivial in substance since the departure of its truly great editor and founder. Not so

our good old CLINICAL MEDICINE. Dr. Burdick had been for years at the helm before we lost Dr. Abbott, and he and his splendid helpers had long ago relieved Dr. Abbott of the magazine responsibility. How well Dr. Abbott planned ahead!

The only suggestion I could make, is—not many long articles, but lots of short ones; plenty of pithy stuff from the men all along the firing line; lots of pictures. You might well answer, "Why, that describes our magazine almost as it is now." Well, all right, let's keep it up, with a heavy foot on the practical pedal.

Personally, at the risk of having the magazine called a "house-organ" (which it never was), I would like to hear the readers write about their experiences with the alkaloids. I have been out of the general harness and in special office work for ten years, but my heart often goes back to the good old days of the long trail. The most satisfactory memory I get from it relates to the fights I used to put up against acute disease with the alkaloids as my principal weapon, and how my triumphs multiplied with the entrance of the "ALKALOIDAL CLINIC" and the little trial case, in 1898. The latter two agents simply revolutionized my methods of practice and also stirred me up to be a more careful diagnostician.

Still, I believe, I never forgot Dr. Abbott's admonition to "get busy doing something while making your diagnosis." If this advice were more generally followed by our ultrascientific physicians of today, the sick would be better off, would they not? "Don't wait for a diagnosis—relieve pain, clean the bowel, treat the symptomatology and, often, the diagnosis will be unnecessary; for, the pathology will disappear." I wonder if it was Dr. Abbott or Dr. Waugh who said that? It is just as true today as it was years ago when it was penned by one of our masters in the art of really treating the sick.

More about the alkaloids, more and more practical letters from the field—always a better and better CLINICAL MEDICINE, is the hope of your friend of nearly a quarter-century.

H. S. BREVOORT.

Little Rock, Ark.

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[We salaam in recognition of the nice things said by Dr. Brevoort about CLINICAL MEDICINE "as it is." We agree with him when he asks the readers of the Journal to contribute short, concise, pithy articles concerning the clinical employment of active-principle remedies, and of other potent remedial agents, for that matter. We can but repeat our oft-told invitation: Let us hear from you, tell us of your triumphs and successes; but, no less, of your failures. Let us discuss the latter and turn them to advantage for other, similar, conditions. Above all: Please do not be a sponge, always sopping up. Let yourself be squeezed and let go of some of the information that you have gathered, for the greater good of the many. Read the editorial on page 558.—ED.]

## A GOOD LOCATION

I have eight appointments, all transferable. Think of that to start with. Catholic and Protestant Churches. Two-year highschool course. Population 300; that of township, 2500. A few small towns without doctors to draw from also. Dwelling has five rooms downstairs and four upstairs. House amply furnished. Equipment and drugs worth $1400. Consider everything worth more than $2500, but ask $2500. People are well-to-do, practice mostly cash. Thriving business town: creamery, cheese factory, etc., also a mill. Location is unopposed. Two hospitals fourteen miles from here. If you are a surgeon you will do better than I have done. I do no operative work. I have all the necessary instruments, but don't use them.

Successor will have products of a large garden, 50 by 90 feet. We want to sell house furnished, practice, equipment, everything but a few personal effects. This practice is considered a good one by everybody. Not necessary to speak anything but English, but other languages will help. I have made a very low price on this deal, but will make a better price for the right man. Come prepared to deal if suited.

I do not insist on selling my house, will consider renting it.

J. LUEPKE.

Eastman, Wis.

## FOR A NATIONAL HEALTH WEEK

How many men, over forty years of age, are walking the streets today, unconscious of any danger whatever except from passing automobiles, but who are menaced with high blood pressure? How many people who are ignorant of the fact that their urine contains an abnormal quantity of sugar and, possibly, albumin with casts? A friend of ours, seemingly in perfect health, applied recently for additional life insurance. His application was rejected three times because of the condition of his urine, with accompanying high blood pressure. Another acquaintance, still in his forties, congratulated himself on keeping in the best of condition through systematic gymnasium exercise. He then developed what, friends told him, was a case of lumbago and, on their advice, he under-

went a course of osteopathic treatments. Obtaining no relief, he consulted another type of drugless practitioner. Gradually, he became worse until, after months of pain, he was confined to his bed. At last, a consultation of physicians was agreed upon, an x-ray was suggested and the verdict "inoperable cancer of the liver." Needless to say, the patient is no longer living.

A lawyer, who served on our local-exemption board during the war, noticed a persistent soreness of his throat. He called this to the attention of some of the examining doctors serving on the draft board. They shook their heads and advised an immediate operation for what looked suspiciously like a malignant condition. The lawyer, though brilliant in his profession and a very fine gentleman, decided to look for relief to other than surgical intervention. During four years of drugless healing, he became progressively worse until his entire jaw became involved and he died a needless and painful death.

These are but a few recent cases which have come to our personal attention. They are multiplied by the thousands in your own experiences and those of other readers of CLINICAL MEDICINE. The point is this. Wouldn't an annual check-up of health conditions, on the part of the individual, serve to uncover many conditions which might be corrected and tend to lengthen life? It is a fact, too well known to dwell upon at this time, that the removal of focal infections present in the teeth, tonsils, etc., has benefited many obscure ailments. One feature of a National Health Week would be, to point out the value and importance, to the individual, of a thorough medical examination.

Leaving diagnosis to a chiropractic or any other drugless healer is a dangerous procedure. The osteopath and the chiropractor blame almost everything upon the spine, and the mental healer starts at once to work upon the mind. An x-ray, a uranalysis or a blood test generally shows that neither the spine nor the mind is involved.

This idea of a National Health Week is gaining ground. It has already received the official endorsement of several associations and the tentative approval of other agencies interested in public-health work, in the welfare of the physician and in the protection of the public. It is an idea that should appeal to every doctor and receive his earnest support. It is a movement that should receive the hearty endorsement of every thinking man and woman who can visualize the importance of a closer contract between the public and the medical profession.

A. LAYMAN.

## QUESTIONS OF ECONOMICS

I began the practice of medicine in 1902 and, most of the time, have had a retail drug store, filling my own prescriptions. I watched the results of the drugs on my patients and have had an opportunity, at least, to draw some definite idea as to the real merits in the medicines used. I believe that every conscientious physician has a high regard for the reliable drug manufacturer, not only for the reputation he makes and popularity with his patients that he gains through their dependable products but because of the relief afforded to the sufferers and of their gratitude. For, this touches the tender heart of every real physician more than the reputation gained or the fees received for his services.

For instance, can you conceive of any greater gratitude than is expressed by some mother who called you, hurriedly, too, to her baby who was "choking to death" with croup? When you arrived at the bedside and administered a dose or so of "calcidin" dissolved in hot water, the baby would vomit a quantity of phlegm and quiet down, going to sleep within thirty to forty minutes. Then the mother's laudation of your efficient service would almost make you develop "Peacockitis" (temporarily, of course); for, it is human to appreciate bouquets.

The last few years have been trying, speaking from the money side of it, for, in this section, we are dependent on the farmer principally for turnover in stock, and the farmers have suffered heavily from depressed markets on farm-products, since the money flush of 1918 and 1919, during the "War Tax Administration" of the Government. Since that date, business of almost every nature in this section has done what Johnnie's ball did when he turned it loose on the hillside, "going down, down, down." So far, during the present administration, it seems that this ball has not started to back up enough to be noticeable. The advanced cost of things, including drugs, still continues. The laity hasn't the money to buy much and, when the prices are advanced by the manufacturers, and the retailer's profit is cut into and his sales are reduced, owing to the general financial depression, what is the natural result but one failure after another among the retailers!

Where is the remedy? If it were the croup choking us, that would be easy to remedy. But, for the love of Mike, when the whole country seems to be short of that one thing that is spoken of in the Good Book as the root of all evil, what in the name of common sense are we to do? The Government says that it is right after the speculator and, no doubt, the whole public has made remarks about these same speculators. However, dog-gone tight conditions still exist; for, money seems to have gotten almost in a class with hen's teeth; at least, the money in general circulation. Now, then, when and where and how is business going to stand the pressure? Prices remain advanced on lots of items and sales are reduced to a minimum.

The big dailies have in their headlines "Better Business"; "Big Improvement in Business Conditions"; etc. Yet, in the same papers, we note the account of failures here and there. What effect will the next election have on conditions?

Now, both the Democratic and Republican parties have stuck it to the physicians and drug interests to the quick; for, I know from experience as a physician and retail druggist just what legislation has meant in dollars and cents as well as in its effect on business.

Take this registration under the narcotic act. I believe that every honest physician admits its power for good. But, why tax us physicians and pull our legs for this $4.00 fee, annually, for a narcotic license, and then give the appointment of state registrar to some smooth politician who is neither physician nor druggist? Under his supervision, there are appointed a few clever inspectors (who are direct or indirect chips of the old political block) to call on physician and druggist and inspect the prescriptions and stocks, when really the inspector does not know sheep suet from apple butter, scientifically speaking. Of course, we have been negligent, to our own hurt, remaining quiet, sitting back on the stool of dignity; and we have permitted the clever politicians to get away with these important matters. The professions and the laity are the sufferers, as a result of our negligence.

If some physician had been given an appointment to issue license-rulings, as important to the lawyers as this narcotic ruling is to the medical and druggist professions, what kind of a howl, do you suppose, would have proceeded from the eloquent tongues of the lawyers?

Please consider just a bit, and let's see if conditions can be improved on some in behalf of the professions.

It seems to me that here is food for thought and that we should interest our well paid, clever, handshaking, shrewd politicians in regard to these matters and elect a sufficient number of physicians and druggists to fill some of the political places in Congress at Washington, as well as in our home-state places of law-manufacturing-plants, etc.

L. P. FORDHAM.

Alamo, Ga.

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[The suggestion to appoint physicians and druggists to some political positions which affect physicians and druggist immediately and intimately, would be all right, if it were feasible. It might do in the case of some druggists who could delegate somebody else to conduct their business affairs during their incumbency in office. Even here, though, the absence of the owner would, many times, be keenly felt and might result in serious detriment. In the case of physicians—a medical practice is so entirely a personal, individual matter (at least in the case of all general practitioners and of most surgeons and specialists) that very few could be found willing to give up their work for terms of several years and jeopardize their chances of later reorganizing their practices. The experience of many medical men, after the war, has not been encouraging. Besides, the salaries paid by the Government—at least for that kind of job—are not very tempting.

Still, it might be possible to establish part-time positions; for, certainly, inspectorships that deal with affairs so intimately the business of physicians and druggists should be held by members of these two professions.—ED.]

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## "JUGULATING PNEUMONIA"

The remarks of Dr. Crack [May issue, page 376.] as to whether Dr. Shook and myself were capable of diagnosing pneumonia, place the burden of proof on us. Although I have no personal acquaintance with Dr. Shook (although I should be glad to know him) I take the liberty to speak for both. From the fact that he is named a grandfather, I conclude that his medical training was similar to mine.

On Aug. 5, 1850, I was born in a physician's home in Eastern Ohio and for 25 years that was my home. In my earliest teens, I announced that I wished to be a physician. My father and my eldest brother (who was a physician and later a surgeon of the northern army in the Civil War) gave me all assistance they could. With them, I wandered the hills

and valleys in search of herbs and all that nature could supply as medicine. From them, we extracted, as well as was then possible, the medicines they used. There was laid my foundation in botany and materia medica. As I grew older, I was allowed to assist in dressing the wounds of returned soldiers, rolling bandages, holding basins, etc.

As time went on, after I had mastered the then known textbooks, I was allowed to go with my preceptors to visit the sick; later, to make diagnosis and, still later, to prescribe. Thus, step by step, was my progress made.

In 1874, I went to the Starling Medical College at Columbus, Ohio, where my first year of college work was done. Two years at medical college was all that the law then required. Our professor of the practice of medicine was Dr. Starling Loving, a profound student, a very capable instructor. Our classes were held at the St. Francis Hospital, The Franklin County Infirmary, the Ohio State Penitentiary.

In 1876, I went to the Cincinnati College of Medicine and Surgery, where I graduated. The instructors were all high-class men. Our classes were held in the, then, Great Cincinnati Hospital, which was claimed, at the time, to be the largest in the world. By the way, I am informed that the new Cincinnati Hospital is actually the largest hospital in operation.

Suffice it to say that we had the best of didactic and clinical teaching the times afforded. While in Cincinnati, I became acquainted with Eclectic medication. Attending the lectures at the Eclectic Medical College, I heard of King and Scudder and Howe and was greatly impressed with their ideas and ways of doing.

I have always been a student and eagerly read and studied anything medical that came my way: The Flints, both father and son, William Pepper, Da Costa, Osler: All these laid especial stress on diagnosis.

My first year in practice was with my preceptors in Colerain, Belmont County, Ohio, where pneumonia is and has always been prevalent. The next two years were spent at Wheeling, W. Va., where fog and soft-coal soot aggravated all respiratory troubles. The next year, at Shelby, Ohio, I was associated with Dr. Calvin McMillan, then a practitioner of twenty-nine years' standing. He was really an Ecelectic and, from him and his library, I learned much that has been of great help to me in my later work.

In 1879, I settled at Edmore, Michigan, where I lived for seven years. At that time, Edmore was a new manufacturing town in the pine woods of Michigan, then the north woods of the southern peninsula. The country was being opened up, the swamps were undrained. Mosquitoes in myriads; ague prevailed from Easter to Thanksgiving. In all these places, I saw my share of pneumonia cases and treated them with the medicines I had been taught to use: Calomel in large doses, Dover's powder, whisky, fly-blisters. Sometimes the patient got well, sometimes not.

In 1886, I removed to Ionia, Michigan, where, practicing for 25 years, I lived in one home. In 1911, I moved to Detroit where I remained for 8 years leaving it to come to Tacoma in 1919, which has since been my home.

When it was known that I was to leave Edmore, some of my patients objected. One lady especially, the wife of the Congregational minister, said, "I do not see how we can spare you." I told her my going would make an opening for a better man. She would not be convinced, but finally said, "If we get very sick, will you come?" I said yes. The incident had passed from my recollection when one day, some years later, I received a special delivery letter from the lady enclosing my fee and transportation, saying, "Mr. Marsh is very sick. Come at once."

This was at the end of a very busy day. I could hardly leave then, as more than one expectant mother had heard the stork's wings fluttering over her homestead. There was but time for a hasty change of clothing and a hurry trip to meet the train. It was night when I reached Edmore. I found the patient very ill. The attending physician was puzzled, frankly admitting that he had done all he knew but really did not comprehend the case. In his presence, I made a diagnosis. At last I said, "Doctor, put your ear here." I pointed to the middle of the right lung. "Listen carefully." "What is it?" he said. "It is a pneumonic focus and is the cause of the trouble." He was astonished but convinced. I stayed up all night with the patient who recovered.

I will refer to the case later. It was in the midst of these busy years that I began to doubt older methods of treatment. Gradually, alcoholic preparations were eliminated. The dose of calomel was diminished, fly-blisters abandoned.

About this time, there came to my desk a small pamphlet called the ALKALOIDAL CLINIC. It was like an oasis in a thirsty land. Eagerly I listened to Waugh and Abbott, and could hardly wait till the next number of the CLINIC came. Alkoloidal treatment looked good to me and is finer now than when we first met. From the great teachers, I caught the idea of

clean out, clean up and keep clean, and the inestimable thought of the necessity, in sickness, of capillary dilatation.

At first, atropine was my remedy in hemorrhage, then in shock, in chills, and finally in pain and fever. Later, the eye man said that atropine works havoc in glaucoma; so, I cast about and finally settled on glonoin and hyoscyamine which are so satisfactory that I have found nothing better.

In discussing the treatment of pneumonia, you will recall in my paper that I called attention to belladonna in very weak dilution. The atropine content of the solution keeps the capillary dilatation at the proper point. Years ago, I read a paper before the Grand Rapids (Kent County, Michigan) Medical Society on atropine and its uses, and, when I was through, the whole society broke out in a great cheer of approval.

The years at Ionia were years of growth and serious meditation. Among other things, I listened to the words of a grand teacher—an aged physician of Chattanooga, Tennessee. He kept asking in medical journals, "What do you know about Epsom Salts?"

Like Paul at the feet of Gamaliel, I sat at the feet of my teacher and learned wisdom—a wisdom that has been a source of great satisfaction to me and of great benefit to my patients. Magnesium Sulphate was well known to chemistry in 1644; but two hundred years elapsed before it was learned that it gave relief in lockjaw, burns and strychnine poisoning. Since then, other uses have been found for it, and the end is not yet.

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In our study and treatment of pneumonia, some things should be carefully attended to. First, the idea that the human body is colloidal and is easily subject to change. The most familiar colloidal compound is cow's milk.

Second, life is dynamic and not static. When congestion occurs, stasis takes place. Like after the souring of milk, the delicate tissues of the body change from normal to abnormal conditions. It is in these cases that the acute internist will make his diagnosis and apply his potent remedies.

The jugulating action is to relieve stasis and give nature a chance to carry on her normal work.

Pneumonia is like a dog fight. Two dogs fight in the street. The laborers near by stop working and cluster about the combatants. All work ceases, a crowd collects, traffic is stopped. The big boss hears the noise, he comes running to the place and kicks the dogs into the gutter, and orders the workmen back to the job. The policeman comes running, breaks up the crowd, and normal traffic is resumed.

The pneumonia arrives as the fight of disease with normal tissue. The cessation of work in the street is like the cessation of the work of the body. As all forces in the street collect about the contestants, so nature assembles her forces about the point of contact. There we have the colloids in action by this congestion, healing or changing, as milk hardens or curdles. Congestion, heat, pain.

Glonoin and hyoscyamine represent the big boss. They repulse the fighters. "Clean out and clean up" is the big policeman. The re-establishment of traffic is the return to health.

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Returning to our first proposition. Do I know how to diagnose pneumonia? I have only to recall earlier experiences when I have for days and nights sat by the bedside of patients ill with that malady. Often, they were near and dear to me. Alone with the patients, all others having given out from much watching and sheer exhaustion. Do you not think that I became familiar with this disease in all its moods? To recall those earlier experiences is like remembering a dreadful nightmare.

Dr. Crack says that not all temperatures of 104° are indication of pneumonia. To this I readily agree; for, some of the worst cases I have known linger with a low, subnormal temperature. If nothing more is brought out of this paper than the importance of looking for and treating subnormal temperatures, the effort will have been worth while. The case of the Congregational minister was one of low temperature.

While in Detroit, I was associated with one of the busiest physicians. Also, we had a young graduate as assistant, and we were all kept busy night and day. I found among the many patients treated a number who carried low temparatures. These were what the doctor called his chronics. They could come to the office, were miserable all the time, and all the doctor had done for them (oftentimes months of treatment) did no good. I called the doctor's attention to this low temperature. He said, "What can be done to cure this," I said, "I know only of two ways—by mechanical and medical means." By mechanical, I refer to the percussion of the spinous process of the seventh cervical vertebra as taught by Abrams. By medical, 1/500 grains of glonoin (nitroglycerin) crushed between the front teeth and absorbed in the mouth, to be followed immediately by the same dose of hyoscyamine

taken in the same way. I have seen this act instantaneously; sometimes a longer time is required.

I have taken a temparature two (2°) degrees below normal converted into a temperature of 102° in a few minutes. By this means, I removed the cap of a smoldering volcano and the explosion came.

Doctor, always shake the mercury in your thermometer almost to 95° and then you can accurately ascertain the temperature.

This paper is long, but I wish to add the following from my case book. It occurred some time ago, in Detroit, Michigan.

A watchmaker, 38 years old, weak and ailing for two weeks. Finally fell on his workbench and had to be sent home. I found marked typhoid-fever symptoms, temperature 104½° F. Pneumonia in both lungs, and jaundice. His wife said, "I have had no experience in sickness. His mother lives in the state of Maine, and my mother in Ohio. What shall I do? I do not want to send him to the hospital." I said, "If you will do just as I say, we will pull him through without nurse or hospital."

Inside of two days, the neighbors interfered and clamored for a consultation, with their doctor as a consultant. I told the wife, if there was to be a consultation, I was to name the consultant. To this she very readily agreed, and I called one of the ablest medical men in the city, himself the head of a hospital. He came, made his examination, and confirmed my diagnosis. Turning to the wife he said, "Your husband is a very sick man. Dr. Cope is right in his diagnosis. I do not treat as he does, but he is a safe man." Then spreading out his fingers, he deliberately counted aloud twenty-one. He said, "If he lives, it will be twenty-one days before there is a crisis, and then there will be a long convalescence." I looked up and said, "Oh, Doctor, I will have him up before that time." He gave me the most incredulous look, and again counted twenty-one. He said, "Last week, three of the officers in one bank in this city had pneumonia and all are dead."

I kept on with my treatment. We had neither nurse nor did the patient go to hospital. In sixteen days, he was up and about the house, and, in two weeks more, he went back to his work. His boss said, "It is like one returned from the dead. I saw you through the door when I visited you in your illness, and told all the men here you would never get well."

One incident of the case is well worth reciting. The itching from the jaundice was well-nigh unbearable. I asked the patient if he would like some hard cider. He looked up smiling and said, "I think that would taste fine." He had all he wanted. In a few days, the jaundice faded away.

C. S. Cope.

Tacoma, Wash.

## THE ELECTRIC IODINE VAPORIZER*
### An Apparatus for the Production of Definite Amounts of Iodine Vapor

Iodine vapor has marked therapeutic activity; but, due to the difficulty in producing definite amounts of the iodine vapor in a simple apparatus, its use has never become universally popular. All previous apparatus for the production of the vapor consisted of a solid metal container into which iodoform crystals were placed and heated over a Bunsen flame or an alcohol lamp. The degree of iodine sublimation could not be determined in this manner. Neither was it simple to apply the vapor, because of the cumbersome appliance. The electric iodine vaporizer is simple in construction and, to produce the vapor, it is only necessary to turn on the electric switch.


The Electric Iodine Vaporizer

To use the vaporizer, the lamp is lit for three minutes and the hood is removed from the light bulb. Pressure is applied at D and a fine spray of iodine vapor is emitted at the end of the applicating tube. A definite amount of iodine vapor can be produced by means of a small gauge pump and as small a quantity as 0.000013 Gram of iodine can be produced. To demonstrate the minuteness of the crystals, spray the vapor against a piece of white paper.

The vapor is useful in certain affections of the ear, nose and throat, certain skin diseases, chronic ulcers, fistulas, gun-shot wounds, venereal ulcers, and endocervicitis. The vapor is

*See, in this connection, the article on page 572 of this issue of Clinical Medicine.

also useful in rendering the throats of diphtheria carriers non-infectious. In using the vaporizer the hands are not soiled and a few Grams of iodine crystals last for hundreds of applications.

EDWIN W. HIRSCH.

Chicago, Ill.

## PRACTICING MEDICINE IN THE WILDS OF AMERICA

I have always had a hankering for the wilderness. This peculiar trait was inherited. My great-great-grandparent came to America, a quarter of a century before the Declaration of Independence was written and recorded, and my grandparents were pioneers in Ohio, having settled in the Hawking Valley, about 16 miles south of Athens, when it was an absolute wilderness; and there they blazed the trail for others. My grandparent, on my Mother's side, got married when he was a hundred and one; so, he was no slouch, or quitter. My Father came to Iowa, two years after the Blackhawk war and settled in Lee County, Iowa.

With all this hereditary inclination, it was natural, after my majority, that I yearned for the west, and, regardless of the protest of my Father, I started westward in quest of gold. I had plenty of experience, but failed to get the gold in the quantities I had anticipated.

There was a man up the head waters of Soda Creek, by the name of G———, whose sons now are prominent citizens of Denver. He owned a large saw mill, employed about forty men occupying a large building adjoining the mill, and employed a large force cutting timber off the public domain.

A young man with more wealth than brains came out there for a touch of wild life—and he got it. He arranged with Mr. G——— to take him out on a hunt. He wanted to kill a few deer or any other kind of "varmint" that happened his way. I recall the morning. It was bleak and cold, and 8° below zero. Mr. G——— and the young man had followed, south and west, one of the gullies leading toward the summit of a series of mountain prominences; had struck the trails of a large drove of deer and, following steadily, they suddenly came upon them and both quickly dismounted. The young man, not familiar with fire arms, must have touched the trigger of his rifle as he reached the ground, because the whole charge of a 44 hit G——— about the middle third of his left lower limb, completely shattering both bones, severing the anterior tibial artery. The bullet then passed diagonally through his right ankle, shattering the bones of the ankle joint. G——— went to the ground and the young man was panic stricken. G——— started to bleed profusely but remained calm. He advised the young man what to do. Taking off his shirt, bandages were made out of it and his wounds bound up. They were about five miles from the mill and it was a problem for him to find his way to where he must seek help. Mr. G——— directed him to follow down the gulley, the stream of which emptied in to the main channel of the gulch in which the mill was located, and to follow the loggers' trail to the mill. He was mounted and arrived about two hours after the accident.

About a dozen men quickly improvised a carrier and, following the trail of the horse in the snow, finally reached Mr. G——— who, meanwhile, had bled profusely and was about frozen to death. They wrapped him in fur robes and blankets and in that manner carried him the five miles to his home. I had been summoned and arrived there a few hours before the injured man was brought in.

On examination, I found that he had about bled to death. He was almost pulseless. The shock, hemorrhage and freezing had done their work. We wrapped him in hot bottles and did all we could, medicinally, to relieve his shock and restore his circulation; but to no avail. He died about two hours after his arrival.

I got the man's version of the accident and also that of the young man responsible for it. Then a coroner's jury was selected and impaneled from the rugged employes at the mill, as was the custom in those days. The evidence of the young man was taken, then mine and that of the other witnesses, who were present and heard the statements of the deceased. His evidence completely exonerated the young man of all blame, and the jury found it was simply an accident.

Mr. G——— was conscious up to the last moment. Suddenly a convulsive tremor seized his body, he straightened out in rigor mortis and was gone.

At that period, I was young and had nerves of steel but, when I gazed at the seven little children kneeling at the bed side of the dying Father, sobbing and crying, and the bereft wife kneeling beside them, trying to comfort them, that bleak wintry night, my sympathy got the master of me, the tears came freely and plenty and I broke for cover. Nobody saw them, though; I said that I broke for cover.

J. H. LOWREY.

Neola, Iowa.

## AMUSEMENTS AND MORALS

Addressing men, like myself, in charge of agencies like the Illinois Social Hygiene League, dealing with moral questions and the effects of immorality, Dr. Henry Lloyd, Professor of Mathematics, Transylvania College, Lexington, Ky., recently asked for opinions respecting modern moral tendencies. Readers may be interested in a brief of my reply.

Dr. Lloyd assumes that there has been a change in morals, a break-down in character.—Not so. The trouble lies in the fact that commercialized amusements have advanced to a point where character-building could not keep pace. Why? Because amusement venders are in business to make money, any old way, by means of every possible agency, advertising, white lights, beauty and all other methods of creating pleasurable recreations. The "character-builders," on the other hand (parents, educators and ministers), not being in business for money, have failed to avail themselves of the same means to attract attention and hold the interest of the young people they seek to guard, and their young are getting away from them.

I know. As father of four (oldest 18; youngest 8), I am kept jumping to interest my children in wholesome things possessing greater lure than those not so good. As superintendent of a venereal-disease clinic, where patients lacking money are treated, I see every day a hundred wrecked men and women and boys and girls, who became infected with these diseases because the lure of the unclean was stronger than the lure of the clean.

The solution! Make amusements not merely clean, but alluring. Don't resort to law any more than is absolutely necessary. Don't hit every new and bizarre amusement promotor on the head with the sledge-hammer of puritanism and prejudice. That will only drive him into the ground where he'll take root. Better, promise to work with him to make his enterprise a success, and show him how to make it clean and still make money.

These amusement venders are not all hawks, sharks or devils. They are not all eager to deprave our youth. They simply want to make money, and their brains are slightly kinked. Take the kinks out. Every rule has its exception; of course, there are cases requiring the heavy hand of the law.

In the final analysis, the responsibility for the invidious increases in immorality, shown by the big business done by venereal-disease clinics, the Juvenile Court, the Morals Courts, and the jail, lies more heavily upon the "character-builders" than upon the commercialized amusement venders.

Get busy, you fathers and mothers, you preachers and teachers! Admit the truth! Then start a campaign of enlightenment. Tell our young people the truth about life. Swat the old stork lie and tell your six-year old, when she asks, exactly where babies come from; and, as soon as possible thereafter, how and why. Tell boys and girls before they reach their teens (the dangerous age) all about their reproductive functions and all about venereal diseases.

Our clinics, which care only for people without money, are crowded daily with some of the prettiest girls in town and some of the nicest fellows. The boys answer my question, "How did you come to do this?" by complaining "Dad never told me—and the fellows say you've got to prove your manhood before you are married!"

Fathers, mothers, teachers, preachers, tell these growing boys and girls about themselves before curiosity carries them out of bounds. If you don't know how to do this, come here and let us tell you how and show you why. Don't depend upon the law to save your boys and girls. Help prevent these tragedies, as they sweep up the rising generation, by demanding of the boy who is to marry your precious daughter a clean bill of health, given by a skillful physician of your own choosing, and provide the same for your daughter.

As I write this, sixteen mostly pretty and mostly young women sit in the waiting room afflicted with the scourge of mankind, our modern leprosy, lacking only the lepers' bell to advertise their horrible affliction, awaiting treatment. Before an hour has passed there will be forty more. Somebody's daughters!

BERNARD C. ROLOFF,
Superintendent.
Illinois Social Hygiene League,
A Charity Clinic.
118 West Grand Ave., Chicago.

[In the last analysis, the answer for most of our social, moral, and economic problems is—EDUCATION, and, then, HONESTY.—ED.]

## FEAR OF INVASION BY TYPHUS CARRIERS

Each war was accompanied and followed by various epidemics. The last Great War brought the epidemics of influenza, which caused the loss of millions of lives in all

parts of the world, and it is followed by a wide spread of diseases like syphilis, tuberculosis, malaria and cholera, even typhus fever. All these diseases, excepting the last two and especially typhus fever, are more or less under control.

Russia was always the main source from which these two diseases, cholera and typhus fever, spread, and is more so now, being in a pitiable state of starvation, brought about by the wonderful, humanitarian government of the Soviets.

Excluding the Ukraine, in 1919-1920, there were one and a quarter million cases of typhus and relapsing fever in rural districts of Russia, according to Dr. Nansen, but typhus has spread from the rural districts and invaded the cities also. During December, 1921, there were 1,800 deaths from this plague alone, in two cities, Moscow and Petrograd.

The route from the east to Kief is lined with corpses, thousands of which are of women with babies at their breasts. They have fallen along the wayside, emaciated and empty-bellied, after having marched on courage and desperation alone, for hundreds of miles, to the Promised Land down west (Poland), to find food. At present, according to the delegates, from Russia, to the International Conference on Hygiene (held at Warsaw in March, 1922), there are over 30 million of human beings in Russia who are threatened with death from starvation. It may not be generally known that this starving populace feeds on the bodies of their dead children or, in despair, very often kills them, not being able to bear the sight of their tortures of starvation. They even disinter buried bodies to appease their hunger.

"The tragedy of this is greater than that of the war, because of the helplessness of the victims," says Dr. Nansen, "but, we do not realize it because it has not struck at our homes."

The great drama of the situation lies in the fact, that, of a population of 30 million in the famine districts (as conservatively estimated by the League of Nations), many millions are doomed to die, no matter what measures to save them are taken, and, according to the American Committee for Russian Famine Relief, 15 to 18 millions will die up to May, 1922*) notwithstanding the enormous sums of money and food given by U. S. Government and the people of America, also by various countries for the relief of Famine in Russia.

*This article was received for publication early last spring.—Ed.

Starvation breds disease and lowers the resisting power to infection.

Spring and summer will rather favor than inhibit the spread of these epidemics and will see the migration of the hungry populaces to the west. With them will travel the cholera and typhus plague, which will spread all over the world, if not checked in time from spreading within Russia and at the gates of Russia.

The nearest neighbor of Russia is Poland. If Poland proves unable to fight the spread of typhus at her gates, it will easily flood the countries west of Poland and eventually reach our own homes, right here in Chicago and other cities in United States.

This statement may seem too bold and exaggerated to some of us, but it is not so. Dr. A. Schlessinger, a member of German Red Cross, warns the United States that typhus can easily be transmitted to our country by emigrants from Russia, and the German Ministry of Health states that 20,000 people cross the German frontiers every day, from Russia, on way to their relatives in different parts of the United States. Germany alone involuntarily shelters 50,000 Russian emigrants, 75 percent of whom are infected with typhus.

We should realize, then, that the situation is very serious, as it may very easily affect us, at our own homes.

Poland realized this danger when she invited Colonel Gillquist of U. S. Army to organize a typhus mission into Poland, in 1919, so as to check the spread of this disease on her territories, which he did successfully. When the Red army came to Warsaw, a great many of Polish soldiers perished, not from Bolshevik bullets, but from the bite of infected lice, which either were brought to Poland by prisoners or left by the retreating Red army. Poland realized this situation when she was fighting these epidemics in prisoners' camps, and Poland once more realized it when, after the treaty at Riga, she received, at Baranowicze, the first trains from Russia with prisoners and refugés, found in each 15 to 25 dead bodies, and each wagon of these train filled with millions of infected lice.

The result of this experience was, that the Polish government transmitted protests to the Soviet's Officials for sending their citizens in such unsanitary trains and instructed its representatives in Russia not to accept trains in such conditions. At the same time, they brought this question before the League of Nations, with the result, that the League immediately charged its representative to Russia to thoroughly investigate conditions there. The reports given

by these representatives were terrible, and the League, on invitation of the Polish Ministry of Health, called an International Conference on Hygiene to Warsaw, which took place during March, 1922.

At this Conference twenty-seven powers were represented by their Delegates, namely:

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| Austria | Japan |
| Belgium | Jugoslavia |
| Bulgaria | Latvia |
| Czechoslovakia | Lithuania |
| Denmark | Norway |
| Esthonia | Poland |
| Finland | Roumania |
| France | Soviet Russia |
| Germany | Soviet Ukraine |
| Great Britain | Spain |
| Greece | Sweden |
| Holland | Switzerland |
| Hungary | Turkey |
| Italy | |

The resolution adopted by this conference was:

1.—To take immediate measures for checking the spread of epidemics beyond the Russian frontiers, and

2.—To aid the Russian and Ukrainian health services in an attack on the centers of the infection.

The conference also resolved that these measures should be entrusted to the League Health Organization and Epidemics' Commission, on which bodies all states taking part must be represented.

Now let us see what we know about typhus fever.

The Editor of *The Journal of the American Medical Association*[1] says:

"The transmission of the infective agent in typhus fever by the body or clothes louse is today an accepted fact, but, the determination of the exact nature of the specific cause of typhus fever has proved even more difficult than the discovery of the mode of its transmission to man. Of late, there has been considerable debate about the possible etiologic microorganism. The careful investigations of the Typhus Research Commission of the League of Red Cross Societies to Poland, under the leadership of Wolbach and Todd, whose main report has just been published, offer striking evidence of a dominant etiologic relationship of Rickettsia prowazeki to typhus. . . . .

"This microorganism was named, in 1916, by da Rocha-Lima in honor of von Prowazek, who also became infected with typhus, as did Ricketts, during his studies, and died. . . . .

"A by-product of the investigations in Poland has been a certain corroboratory evidence that rickettsia pediculi, an extracellular form of rickettsia, found in lice, is the cause of trench fever. The typhus organisms are essentially intracellular in their occurrence, whether they are found in the tissues of infected man or in the stomach epithelium of the invaded louse. Much remains to be learned about the rickettsia, and the typhus-producing form in particular. It is not yet clear why lice do not invariably become infective when nurtured under proper conditions on typhus patients . . .

"Precisely how the rickettsia enter the human patient, is also not yet clear. The study of typhus, furthermore, calls for real heroism. This is attested by the wonderfully expressive dedication of the Red Cross Report 'to the memory of the investigators of typhus, who, as a consequence of their researches, contracted the disease and died.' Here are the names, lest we forget: Conneff, Cornet, Jochmann, Huthje, von Prowazek, Ricketts, Schussler. But the battle with typhus is going on, and how many more we shall be obliged to add to this list, before we know the truth about rickettsia?"

To this list, I would like to add over a hundred physicians from the Polish Army, including physicians from United States with the Typhus mission, who fell on the battlefield with typhus fever in Poland, especially Dr. John B. Voor, Capt. A. R. C., of Louisville, Ky. and few others. They, as all who passed through this battle with typhus (or any similar one) are no less heroes and deserve the highest decorations that any government can give; but I doubt if any one of them got one. The heroism of medical men, who expose their lives every day voluntarily in their profession, is not yet recognized either by officials or by the general public.

"The altruism of men of medicine has become proverbial. Their heroism in investigating and treating disease is often put to the test and is rarely found wanting. Their ideals are high, and they can be trusted to do what is within their power to put an end to the ills of suffering humanity. Yet, it should be borne in mind that scientific medicine, unaided, has a well-nigh impossible work before it. If it is to accomplish the final banishment of disease, it must have the sympathetic cooperation and encouragement of mankind, in whose interests it continually labors."

FRANK LENART.

Chicago, Ill.

[1]Typhus fever: A study of disease and its martyrs. Editor. Vol. 78, 1922, page 1054.

## HOUSEHOLD DRUGS AND THEIR USES

The things that are in every-day use, and which are easily obtained and utilized at any time and at any place, if their medical properties are known, can greatly relieve the sufferings of humanity and the ordinary, every-day complaints of many patients during these

hard times where the cost of living has become exceptionally high. I am dealing here with these ordinary and quite commonplace things with a medical eye.

First, I will deal with common salt, which is an ordinary thing of everyday use, but possesses important elements for the upkeep of the body. Mr. Fitch, an American author of repute, in his book on "Dietotherapy" writes, "Whenever a high tax has been imposed on salt and its use restricted, the health of the people has suffered".

### 1. Common Salt

1. Common salt prevents decay.

2. It is burnt up and the resulting powder is given in irregular types of fever and also in malaria, during the hot stage, in 1-drachm doses three or four times a day.

3. It cleanses the mouth, keeps the teeth and gums clean and prevents caries and pyorrhea if continuously used.

4. It cures indigestion and is very useful in sour eructations.

5. It helps in healing wounds and septic ulcers.

6. Its solution (saline solution) is very useful in washing the eyes before and after cataract operations.

7. Its solution (1 to 2½%) when used as subconjunctival injections, cures the opacities of the cornea.

8. A few grains taken every morning will act as a very good antiseptic in respiratory and digestive troubles.

9. It works as a soothing application in bites and stings of bees and other insects.

10. It will cure coryza if the solution is drawn up into the nose.

11. Its solution, when used as a gargle or as spray, is a very good prophylactic for influenza.

12. A few drops of its solution (2 to 5%) when dropped into the nose of the affected side, will relieve obstinate cases of megrim.

13. A few drops of its solution (2 to 5%), when instilled into the ear opposite to the side of a scorpion bite, will instantly relieve the pain of the sting.

14. It is extensively used as an injection in cholera, collapse after hemorrhages, coma of diabetes, etc.

15. It loosens the phlegm in asthma when combined with ammonium chloride.

16. A teaspoonful internally, at the commencement of a neuralgic attack of the head, will in many cases abort it.

17. Large doses are emetic and purgative.

18. Rectal injections of saline solutions are used to kill threadworms.

19. Saline solution used per rectum cures the recurrent attacks of vomiting in infants.

20. A tablespoonful to a pint of boiled water, used as an injection, helps in relieving the very severe pruritus vulvæ.

21. Twenty-five percent ointment in vaseline is used for ringworm.

22. Baths of common salt, about 2 lbs. to each bath, act as a tonic and stimulant and are useful for chronic rheumatism.

23. Salt mixed with sweet oil or vaseline and applied over the scalp is a sure remedy for certain forms of dermatitis of the scalp.

24. Its excessive use leads to scurvy and its deficient use leads to anemia, debility, edema of face and ankles.

25. In sterility due to acid secretions of leucorrhoea, its solution, used as a douche per vaginam, a few minutes before the sexual intercourse, helps in removing that type of sterility.

V. N. Mehta.
Viramgam, Bombay Presidency, India.

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[Common table salt is one of the most interesting and important articles in our materia medica and, no less, in our everyday requirements. Numerous books have been written about salt and have not exhausted the subject. For that reason, we were much amused when, some months ago, we saw an article in a medical journal, titled "All About Salt". All about salt could not be told in so small a communication as a journal article.

Some years ago, we became greatly interested in salt. We found that wars had been fought for the possession of salt mines; that civilization followed the caravan trails on which salt was transported; that tributes were demanded, and paid, in kind; namely, salt; that salt served as a medium of trade; that soldiers were paid in salt (hence, the word "salary"), and many other things. In medicine, salt is truly one of the most necessary ingredients of many remedies; physiologically, the body requires salt and perishes without it.

Salt is, indeed, a topic quite worthy of discussion in a medical journal. Our familiarity with it has made us neglectful of its many virtues.—Ed.]

## OPENINGS FOR JUNIOR MEDICAL OFFICERS IN GOVERNMENT SERVICE

The United States Civil Service Commission states that there is urgent need for eligibles to fill positions of junior medical officers in the Indian Service and the Coast and Geodetic Survey and that the Commission will receive and rate applications until further notice.

Competitors will not be required to report at any place for a written examination, but will be rated upon the subjects of education, training, and experience as shown by their applications and corroborative evidence.

Full information concerning salaries, etc., and application blanks may be secured from the United States Civil Service Commission, Washington, D. C., or the board of civil service examiners at the post office or customs-house in any city.

A little Georgia Beauty acting as Daddy's Messenger.

## THE SHEPPARD-TOWNER MATERNITY BILL IS UNCONSTITUTIONAL

Attorney General Allen of Massachusetts, in a decision handed down in May, holds that the Sheppard-Towner Maternity Act, providing for federal and state cooperation in promoting maternity and infancy welfare and hygiene is unconstitutional.

In his opinion, he said, Congress had exceeded its authority, in that the legislation involved police powers which were reserved exclusively to the states.

His opinion was given the legislature of the state of Massachusetts, which asked for an opinion as to the constitutionality of the act.

He suggested that Massachusetts might well test the validity of the act in the Supreme Court of the United States.

Five-year-old daughter of Dr. U. B. Hutchinson, Grovania, Ga.

## SCHOOL OF PUBLIC HEALTH AND HYGIENE AT HOWARD UNIVERSITY

Howard University, at Washington, D. C., announces the inauguration of its School of Public Health and Hygiene. This school has been established with the idea of specializing in the education of colored physicians, nurses and social workers for preventive medicine, which is a new and rapidly growing field of modern medicine. Indeed, it has been declared that the first duty of Medicine is, not, to cure disease but, to prevent it. In its simplest terms, therefore, the purpose of the science and art of preventive medicine is, to apply human knowledge to the prevention of disease.

There can be no doubt about the importance and the need of preventive-medicine measures among members of the colored race. Indeed, we hold that an energetic campaign tending to educate the Negro in right living, so as to avoid illness, will be found a potent factor in solving the problem of his race. We hope that this School of Public Health and Hygiene will be highly successful

# What Others are Doing

## PHYSICAL CAUSES OF NEURASTHENIA

The physician who understands the meaning of diagnosis, declares Tom A. Williams (*Pract.*, March, '22, p. 220), knows that it is not sufficient to label a patient with the opprobrious term "neurasthenic." It is necessary to find the process in the patient's body or mind that is responsible for his symptoms.

As to the numerous ways by which persons become neurasthenic, Dr. Williams cites several cases, in most of which such symptoms were manifest as exhaustion, inability to concentrate, lassitude, insomnia, and such like. For instance:

A man of forty-five, too neurasthenic to go to business, had been correctly adjudged agoraphobic. But, examination showed that the agoraphobia had been reached through a different process than the more familiar ones caused by obessions. His asthenia was based on an actual physical state, a depletion of the glandular secretions.

In another instance, low blood pressure, or lack of adrenal output, was found to be the cause; in another, hyperproteosis with raised blood pressure; in another, that of a stenographer, a gnawing pain in neck and shoulders was found to rest on so simple a matter as faulty posture at the keyboard; in still another case, migraine headache had been entirely ignored as the genetic factor but yielded readily to treatment. A woman of forty, having a severe pain in back and lower limb, was believed to have psychoneurosis; that is, an unconscious defense in order to evade disagreeable work. There was found, however, a very definite radiculitis arising from an old infection. A young woman, diagnosed as neurasthenic, and in this belief urged to continued exertion in spite of extreme asthenia, was shown to be suffering from tumor of the brain. A case of nocturnal incontinence, for which psychotherapy had failed, proved to be in need of treatment for vagotonia.

It must not be thought, though, that physical causes can always be discovered in cases of neurasthenia. Very often, the psychic factors are all important and require urgent attention. Social maladjustments may be the cause of long-continued asthenia; inability to perform, in an actor, was found due to a phobia induced by unfavorable criticism; jealousy, and other factors have been found responsible.

In still other cases, Dr. Williams declares, focal infection may induce a neurasthenic state; further, latent tuberculosis, the less realized metabolic disturbances, hypovitaminosis, mild cardiopathy, dyspituitarism and other endocrinopathies.

Manifestly, the physician's first duty is, to discover which of the many causes may be the detriment in a given case. If this can be removed, the obnoxious diagnosis of neurasthenia will, it is hoped, fall in abeyance.

## NOCTURNAL ENURESIS

It is perhaps exaggerated to say that this condition may be regarded as one of the stigmata of hypothyroidism, as, of course, not only are other causes sometimes responsible, but it is not always ameliorated by thyroid therapy.

In many cases, however, nocturnal enuresis exists in company with other signs of delayed and imperfect development, such as stunted growth, feeble musculature, adenoid growths, flat-feet, or delayed epiphyseal development. Removal of adenoids in such patients does not benefit the syndrome; but the administration of thyroid extract does so definitely, provided hypothyrea is at the basis of the trouble. While it is worthy of a trial in all cases of nocturnal enuresis in children, it is the specific treatment where this condition is accompanied by other signs of thyroid inadequacy.

Hertoghe has described this condition at some length, and suggested its underlying pathology. There is weakness of control of the sphincter, thickening and desquamation of the bladder mucosa, the latter showing itself by the presence of vesical epithelium in the urine. (I. G. Cobb in "Aids to Organotherapy." 1922.)

## PRACTICAL OBSERVATIONS IN SYPHILIS

In the January, 1922, issue of the *American Journal of Syphilis* appears the first of a series of articles on the practical observations in syphilis, by Dr. H. H. Hazen, of Washington. The author is emphasizing in this series the practical application, with the set purpose of

instructing the general practitioner who is occasionally called upon to handle syphilis. The first article consists of three sections: Introduction; Etiology; and Clinical Course. The discussion is thorough and uninvolved, and gives evidence of unquestionable value to the literature on syphilis.

## DIAGNOSIS OF LATE HEREDITARY SYPHILIS

B. Barker Beeson, (*Ill. Med. Jour.*, September, 1921) discusses the various means of diagnosing late hereditary syphilis. The author differentiates three means: by general physiognomy examinations, by the Wassermann reaction and, in doubtful cases with negative Wassermann reactions, by the therapeutic test. The following conclusions are significant:

1. Late hereditary syphilis is a remarkably protean affair and may simulate, as does the acquired form, any known disease.

2. There are certain stigmata, such as Hutchinson triad, the sabre-like tibia, dematiform skull and the peribuccal scars which may be said to be almost pathognomonic of that disorder.

3. From the standpoint of late inherited neurosyphilis, the presence of the Argyll-Robertson pupil as well as absence of the patellar and tendo Achilles reflexes are of extreme importance.

4. The Wassermann reaction is a valuable aid but should not be permitted to displace sound clinical judgment. It should be regarded as a valuable symptom when present. Its reactivation is also possessed of a certain value but, like the Wassermann, does not possess an absolute value.

5. The therapeutic test has been and remains a tried and true friend.

## RAT-BITE FEVER

The rat belongs to those "predatory" animals that cause injury to the human race more in its pocket-book, fortunately, than in bodily health. The losses suffered through the rat, owing to destruction of wheat, grains, etc., run into many millions of dollars, annually, we are told.

However, to some extent, the rat is responsible for much human suffering also, more particularly because it functions as intermediate host to certain pathogenic microorganisms that are transmitted from the rat to humans through lice, fleas, bed-bugs and such "blood-suckers." Aside from plague, which is imported occasionally in this manner, officers of the U. S. Public Health Service have described tularemia, a disease occurring in laboratory workers who dissect rats. Also, rat-bite fever, a relapsing febrile disease, has been recognized, which is caused by the streptothrix muris ratti transferred through the bite of a rat, and which is observed fairly frequently in Japan.

That we, in this country, are not immune from similar harm, where rats are permitted to infest the premises, appears from a case reported recently to the Oklahoma State Medical Association. Dr. T. C. Sanders (*Jour. Okla. State Med. Ass.*, June, '22) was called to see a baby, three months old, that, during the night, had been bitten on the forehead by a large-sized rat. Twenty-four hours later, the baby was acutely ill, with temperature of 103°F., abdomen distended, extremities cold, stools, after purgation, foul smelling, greenish in color. The baby continued to be severely ill, the outstanding symptoms being those of septicemia; eventually, bronchopneumonia developed; then several non-inflammatory, hard nodules appeared on various places of the body, one of which softened and was found to contain a large quantity of thin, yellowish pus. Death occurred three weeks after the injury.

During the discussion, a case was related, of a baby, ten months of age, who had been left alone for about half an hour and had been attacked and severely bitten on head and arms by one or several rats. Septic fever developed after thirty-six to forty-eight hours, marked jaundice appeared, and the child died in a few days, evidently from toxemia.

## MENTAL SYMPTOMS APPEARING OPPORTUNELY

If an individual develops mental symptoms at such a convenient time as the day of his arrest for a crime or some other great crisis in life, the suspicion immediately arises in the average mind, says Dr. Theodore Diller (*West Va. Med. Jour.*, May, '22), that he is "putting on", and, so firmly does such an impression take hold of many minds, that it can hardly be dislodged by a fair amount of reasoning based on evidence.

But, yet, Dr. Diller asks: Is the development of mental symptoms in those accused of crime or facing other crises in life so very extraordinary, after all? On the contrary, is it not a thing that might be expected every now and then? Certainly, we know of records of thousands of cases of soldiers who developed men-

tal symptoms at a most convenient time for them—on the eve of battle. The same reasoning which will explain the development of symptoms in these soldiers, Dr. Diller believes, is sufficient to explain the symptoms of those facing a criminal charge. The soldier feels his total inadequacy, he sputters and goes wrong, just as physical machinery might do when overloaded and, so, thoroughly inadequate for what he is called upon to do, he develops one of many mental symptoms, hysterical for the most part.

A man accused of crime, having no defense, might, one would suppose, every now and then show a mental reaction similar to that exhibited by soldiers. It must be admitted, though, that an *a priori* argument of that nature will not solve the problem or establish the genuineness of a given case.

The author reports three cases in point. One, in a woman of rather less than average intelligence who had been incapable of keeping step with her husband in his rapid advance, materially and intellectually. He had been very successful and had progressed accordingly, while she could not rise above the small interests of the small town and the small household. On facing divorce, her mind gave way under the strain and she developed symptoms of dementia precox, which, in time, subsided; and she returned to what was her normal condition.

Two other cases are cited, in men who had been promoters and had manipulated large sums of money. Ultimately, they were arrested on criminal charges and both developed mental symptoms, namely hysterical psychosis with amnesia and analgesia, and a hypomanical state suggestive of paresis, but which has to be considered as a psychosis.

All three cases represent mental breaks in persons confronted with a great crisis in life, exhibiting markedly the individuals' inadequacy to meet the crisis in the several situations in which they are placed.

## SCHOOL HEALTH SUPERVISION

An investigation of school health supervision based upon age and sex incidence of physical defects, upon which a report is published in the *American Journal of Public Health* (June, '22.) leads Dr. S. Josephine Baker, Director, Bureau of Child Hygiene, Department of Health, New York City, to the following conclusion:

1. The most important physical examination to be made in the school life of the child is the one occurring at the time the child enters school for the first time.

2. In order to make the work of health supervision of school children effective, a complete physical examination of each child should be made before the eight- to ten-year period. If this can be done with 100 percent efficiency, combined with follow-up that is 100 percent effective and 100 percent of treatments obtained, it should not be necessary to make regular physical examination after the eight- to ten-year period, reliance being placed after that time upon the routine inspection of the children in the class-room. This routine inspection will permit the nurse, doctor or teacher to pick out the cases of physical defects that have been in any way overlooked during routine physical examinations or which have originated after the eight- to ten-year period.

3. An annual test for defective vision is desirable.

4. Unless the amount of money appropriated for school medical inspection is large enough to allow a complete and thorough physical examination each school year, the officials in charge of such work are not justified in spending any money in having physical examination made after the eight- to ten-year period unless the full health of the children below that age period have been met.

5. A logical deduction that might be drawn from this study is, that great emphasis should be placed hereafter upon the preschool-age period as the time when physical defects should be prevented or corrected.

6. To sum up the matter, this study would seem to show that the expenditure of time and money to make annual physical examinations of school children is not warranted and seems to be unnecessary. Analysis of the age and sex incidence of physical defects in this study shows that proper and adequate physical examinations made in the early life of the school children—that is, before the eight- to ten-year period—are essential, and, if these are properly followed up and suitable treatment obtained, the appropriation for this work will be spent in the most economical way, the child's health will be more thoroughly protected and future disease and the sequelæ of physical defects be more adequately guarded against than by any of the present methods of school health supervision.

## CARBON-MONOXIDE POISONING

The editor of the *U. S. Naval Medical Bulletin* (June, '22.) has compiled a very instructive review of the recent literature on carbon-monoxide poisoning. This is of service, not only because of the frequent accidents in mining operations, in industries utilizing blast furnaces or other devices for combustion on a large scale, illuminating gases; also (on a smaller scale) in the home with its ranges, furnaces, kerosene heaters, gas jets, etc., but on account of the ever-increasing use of gasoline engines for stationary motors and for vehicles. The editorial article in question refers to frequent press notices giving us evidence of the dangers of a running engine in a closed garage. Even on the streets of a large city, the problem forces itself upon our attention. On a windless day, the streets carrying heavy traffic are usually filled with a distinct haze of exhaust gas.

According to an article in the *Journal of Industrial Hygiene*, a car, while warming up, may be expected to give off about 1 cubic foot of carbon monoxide per minute, and, in a closed room, 10 by 10 by 20 feet (the dimensions of many private garages), the atmosphere will, apart from diffusion, reach the dangerous concentration of 15 parts in 10,000 in three minutes.

The authors of this article define certain standards for ventilation, based upon length of brief exposures: "When the time in hours multiplied by the concentration of carbon monoxide in parts per 10,000 of air equals 3, there is no perceptible physiologic effect. When it equals 6, there is just a perceptible effect. When it equals 9, headache and nausea are induced. When it equals 15 or more, the conditions are dangerous to life. If the volume of breathing is increased by exercise (even by slow walking and, correspondingly more, by physical work), the rate of absorption of carbon monoxide is increased proportionally. After return to fresh air, the elimination of carbon monoxide through the lungs proceeds at a rate of 30 to 60 percent reduction of the blood saturation per hour.

In the exhaust gas from gasoline, carbon monoxide is the only considerable toxic constituent. In the exhaust gas from coal distillate (benzol, etc.), and in illuminating gas, there are present accessory toxic substances.

The harmful effects of carbon monoxide, we are told in another article abstracted in the editorial mentioned, are not due to an actual toxic action, but are caused by the anoxemia resulting from the formation of carboxy-hemoglobin. According to still another article, the sequence of events during carbon-monoxide asphyxia, is anoxemia, increased respiration, acapnia and alkalosis (pH increased due to decrease in hydrogen-ion concentration and $H_2CO_3$: $NaHCO_3$ ratio), compensatory loss of alkali from the blood, terminal slowing of respiration, and acidosis due to retention of carbon dioxide or at least a tendency toward acidosis. This final increase in hydrogen-ion concentration, it is said, may terminate in death, or, if intake of carbon monoxide cease, be restorative and end in recovery with recalling of alkali to the blood. Thus, it appears, the condition is genetically an alkalosis, rather than an acidosis —the lowering of blood alkali being compensatory, and any increase in hydrogen-ion concentration being premortal or restorative.

As to treatment, a new feature has been introduced, consisting in the administration of a mixture of carbon dioxide and oxygen. The rationale of this treatment, we are told, is evident from certain researches relative to the acid-base equilibrium—restoration of lost carbon dioxide and recalling of alkali to the blood and augumentation of respiration. It has been found that oxygen with 6 to 10 percent of carbon dioxide would free the blood of carbon monoxide in 15 to 20 minutes, even when the hemoglobin was 60 to 80 percent saturated. This is another example of the use of carbon dioxide as an efficient therapeutic agent in conditions that are acapnial in origin. It has been found that decided beneficial effects followed the administration of this agent in the depression following etherization, in which condition acapnia is also a factor. Further, in some investigations relative to cardiac behavior, it was discovered that atropine prevents the temporary cessation of auricular activity.

The separate articles from which the foregoing information was culled, are all cited individually by the editor of the *Naval Bulletin* to whose review we acknowledge our obligation.

# Among the Books

## OSBORNE: "THE PRINCIPLES OF THERAPEUTICS"

The Principles of Therapeutics. By Oliver T. Osborne, M. D., Professor of Therapeutics, Department of Medicine, Yale University. Octavo of 881 pages. Philadelphia and London: W. B. Saunders Company. 1921. Cloth, $7.00 net.

Perhaps because one expects so much from a man of Osborne's standing, a vague feeling of disappointment is experienced after perusal of this volume. That it contains much information of value, is true; that the author has omitted to even casually mention many things of equal importance is also a fact. As is stated in the preface:

"A brief section on prescription writing is offered, a commentary on the valuable drugs and preparations of the United States Pharmacopoeia is presented, a therapeutic classification of drugs, and a description of their action and uses are given in some detail. Foods and organotherapy are carefully discussed. The various physical methods of treatment, electricity, massage, exercise, climate, and medicinal springs are described. Special treatments for acute and chronic poisoning by drugs, and the treatment for most emergencies are outlined. Rational treatments for simple external disturbances are suggested, practical advice concerning equipment and preparedness is given the young practitioner, the National drug laws are described, reportable contagious diseases are listed, and, finally, a chapter on Medical Ethics completes the book."

In addition, some space is given a consideration of Leeching and Wet Cupping. The latter method of withdrawing blood from the body, we are informed, is "now rarely used; it is much better to use leeches." "To hasten the leech to fasten its teeth into the skin and begin its suction work" (a sentence, this, which will stay with me forever!), "the skin should be cleansed and a little sweetened water or milk rubbed on the spot." Later, to hasten the leech to remove its teeth, Osborne instructs his readers to drop a little salt on it—"it should not be pulled off." This, of course, makes even the most serious-minded individual think of the method of catching a bird recommended to us by our elders, i. e., put a little salt on its tail. One also wonders where, in these days, the leech (Swedish or American) is coming from. It is reasonably certain that, before the bloodsucker could be procured, the condition necessitating its application would have subsided.

One could wish that the erudite author had devoted the space given to the leech to a more rational consideration of aconitine than is contained in this paragraph. "The official alkaloid aconitine is too strong to be used in medicine. *A very small dose has no value and a larger may cause toxic symptoms.*" For this reason, I assume, the tincture is recommended as the "best preparation." Now, it occurs to one familiar with the active principles that, if the tincture of aconite is of any value at all, it is so because it is supposed to contain 10 percent of the alkaloid. As a matter of fact, sometimes it does and sometimes it doesn't. Moreover, despite Osborne's statement, very small doses of aconitine *are* of value and it is highly desirable that too large doses be not given as they "may *(will)* cause toxic symptoms." Therefore, instead of taking chances with tinctures of unknown and, necessarily, variable strength, the salts of the alkaloid in minute definite dosage are beyond question the "best preparations to use." Osborne, for some reason, treats most of the definite active principles thus cavalierly. This is particularly unfortunate, in view of his most commendable statement in the Introduction to Part II of the book: "In this age of antitoxins, vaccines and organotherapy, and the consequent tendency to drug nihilism, it is well to study from a therapeutic standpoint the really useful drugs". After that, one is still further grieved to note the absence of any reference whatsoever to at least a dozen drugs more extensively used by physicians today than nine out of ten of those Osborne mentions—more or less briefly, as a rule. However, the dear old C. C. pill receives the treatment it merits, and we are told distinctly that "other more simple purgatives" are to be preferred. They are.

Osborne does not believe in the efficacy of calcium sulphide, stating that "whatever value it has is probably due to its sulphur content, and other preparations of sulphur will doubtless act as well." Unfortunately, they don't.

The divided dose of calomel is also con-

demned. Those who have for years been able to secure definite results with fractional doses of hydrarg. chlor. mite will regret to find that this authority regards such practice as reprehensible.

Taken as an official presentation of the principles of "modern therapeutics", Osborne's book may be regarded as a success. The average man, however, will, one feels, be apt to read it more as a matter of duty and with a chastened spirit in his spare hours, turning for immediately needed information in time of doubt to such authors as Hare or Wilcox—men less swayed by officialism and possessing a wider and decidedly more practical knowledge of materia medica and therapeutics.

*—G. H. C.*

## BROGDEN: "HOSPITAL SOCIAL SERVICE"

Handbook of Organization and Method in Hospital Social Service. An Outline of Politics as Practiced at The Johns Hopkins Hospital, Baltimore, Md. By Margaret S. Brogden. Baltimore. The Norma, Remington Co. 1922. Price $2.50.

Since Dr. Richard Cabot suggested and inaugurated the social service as an integral and important part of hospital work, this service has assumed considerable importance and is now well established. The author found that, with the growth and development of the social-service department, the need of a reference book setting forth clearly the routine and policies of the department became apparent.

The function of the social worker, the author says, is to aid in medical treatment and prevention of disease through investigation, reporting to the physician, adjustment of problems (both personal and environmental) that hinder or retard the process of recovery.

Glancing through the text of the book before us, we are impressed with the fact that the social worker is indeed a highly important aid to the dispensary and hospital physician. It is, many times, impossible for the physician to investigate, or inquire into, all personal and environmental factors that influence, more or less seriously, the patient's physical and mental condition. It is here that the social worker's services are of paramount importance and may indeed become the deciding factor in the recovery, or the reverse, of the patient.

It strikes the Reviewer that, even in private practice, very often, something like social service would be of great aid.

It frequently happens that the patient or his family fail to give to the physician all salient and relevant information. It happens even that important facts are deliberately withheld from the physician who then, very naturally, is at a loss to account for certain symptoms or signs that he observes. We repeat that something like a social-service worker would be of decided service to the general practitioner.

## "THE SOCIETY OF THE LYING-IN HOSPITAL"

The Society of the Lying-In Hospital of the City of New York. Annual Report. One Hundred and Twenty-Third Year. From January 1st, 1921 to December 31, 1921. 1921. Printed by Order of The Board of Governors.

The report for 1921 dealing with the operation of the New York Lying-In Hospital covers its activities during its one hundred and twenty-third year of operation. This hospital is located in a beautiful building which is the gift of the late J. Pierpont Morgan. It gives graduate training every year to physicians who come from many lands and represent over one hundred medical schools, and it grants diplomas to fully two hundred and fifty nurses coming from scores of different hospitals. For use in giving instruction, the hospital possesses what many authorities believe to be the most remarkable obstetrical records in the world; the full details on 144,000 cases. There are about five thousand babies born under the auspices of this hospital every year and we are informed that fifty-eight percent of the parents of these babies have no money to pay for their hospital care. Under these circumstances, the Lying-In Hospital is asking for support.

The work accomplished by the hospital is great. An important feature is the prenatal care given to all those who apply to the outdoor department, no matter whether the patients are to be confined in the hospital or elsewhere.

A fact, which should stimulate our efforts in preventive medicine, is the observation that the number of cases admitted suffering from pronounced chronic heart and kidney disease, complicating pregnancy and with high blood pressure has decidedly increased.

To physicians, the practical obstetrical training that is given in the Lying-In Hospital of the City of New York is of special interest. Thousands of physicians have availed themselves of this opportunity and make use of the lessons learned in their practice.

For a hospital, in this young country of ours, to look back over one hundred and twenty-

three years of service, is something to be proud of. It is to be hoped that the needed support may be forthcoming and that the hospital will be enabled to continue its remarkable service in the future.

## "UNITED FRUIT COMPANY" Report of Medical Department

United Fruit Company. General Offices: Boston, Massachusetts. Medical Department. Tenth Annual Report. 1921.

This report of the United Fruit Company is very interesting, for several reasons. If it is considered that this concern, which operates in Central America, has 395,000 acres of land under cultivation and that it undertakes to care for more than 140,000 people living in these cultivated areas, the magnitude of the problems to be solved can be understood.

There is, first and foremost, the malaria problem which demands urgently that the Anopheles mosquitoes or their larvæ must be destroyed. We are told that great progress is being made here in draining, filling and larvaciding stagnant pools, in grass-cutting, in destroying useless water containers and in protecting others that are needed for household purposes.

An innovation that has recently been put into operation is the destruction of Anopheles larvæ by the use of Paris green. This substance, in a preparation of one percent, is mechanically mixed with common road dust and thrown by hand over the areas infested with the mosquitoes. It has been found that about two teaspoonfuls of Paris green mixed with about twenty-five ounces of road dust are sufficient to give one-hundred-percent efficient control of over one thousand square feet of surface at a cost of a fraction of a cent.

The prophylactic administration of quinine in 15-grain doses in solution, twice a week (usually with half an ounce of rum), has been employed with gratifying results. The curative treatment of malaria is inaugurated by a dose of 3 grains of calomel, followed in six hours by an ounce of magnesium sulphate. Sulphate or hydrochloride or quinine is administered in solution (15 grains), three times daily, being continued for three to four days after the temperature is normal, after which the dose is lessened to 10 grains three times daily until the patient is discharged.

In hookworm, the main reliance is placed on the use of chenopodium, although in some cases thymol has been found of advantage.

The United Fruit Company possesses some very beautiful hospitals in its several divisions, and their staffs are recruited from graduates of most of the leading medical schools in the United States and also in Central America. There was a total of 26,290 patients treated in the hospital during the year; 110,943 in hospital dispensaries; 71,077 in field dispensaries; and 7,772 on steamships. Excluding the last item, the total of patients treated by the medical service of the company is 208,310.

The detailed report is supplemented by an appendix containing general recommendations of the medical department concerning sanitation and prevention of disease in the tropics. This deals with building, sewage, water supply, clothing, food, tropical diseases; it pays attention to insects, like house-flies, sand-flies, lice, ticks, chiggers, roaches, ants, and so forth. All in all, it is a very interesting report that may be studied with profit.

## SADLER: "RACE DECADENCE"

Race Decadence. An Examination of the Causes of Racial Degeneracy in the United States. By William S. Sadler, M. D., F. A. C. S. Illustrated. Chicago: A. C. McClurg & Co. 1922. Price $2.50.

Any pessimistic tendencies that might be suggested by the title of this book are disclaimed by the author who does not have the slightest wish to play Cassandra, but investigates impartially the evidences of race decadence that are only too manifest in all strata of our society. However, by way of contrast, the author promises further volumes that will deal with race betterment and that present the encouraging and more optimistic side of this momentous question.

That there is a possible deterioration of the stock of white races going on, is subject to demonstration, the author asserts, and it is the purpose of the book to examine the causes and influences at work among civilized peoples which contribute more or less to such a deterioration. If the problem is met squarely and honestly, no fear need be entertained for the ultimate outcome. While there are those who predict the coming superiority of the Slavonic over the Anglo-Saxon and, later, that of the Mongolian over the Slavonic races, the author believes that the civilization of the white race is destined to make its last stand on the American continent and in the present American society and government.

The text is divided into two portions, the first of which deals with physical decadence. There, undoubtedly, is to be recorded an immense and needless waste due to unnecessary

and preventable disease and also to the tremendous national loss by premature deaths. There are diseases (which we call constitutional) and causes undermining the health of the people and terminating many lives prematurely. Many of these maladies have a hereditary basis, and suggestions tending to the removal of this injurious factor necessarily must have a practical bearing upon the modern methods of preventive medicine.

In part two, the author depicts graphically the intellectual catastrophe awaiting the American people if they go on for an indefinite period unmindful of, and indifferent to, the menace of feeblemindedness and other forms of mental deterioration which, in common with epilepsy and insanity, loom large among our social and national problems.

In accordance with his program, the author utilizes, in the first part of the book, the results of the selective-service draft examinations which resulted in such a striking demonstration of the relatively excessive frequency of physical deficiency. If it is considered that twenty-five million American citizens out of a population of one hundred and ten million were found to be physically below par, one must realize that there is something the matter with us as a people. Nor can we lay the flattering unction to our souls that, "at that", things are better here than elsewhere. In a young, virile nation which combines the best elements of the old peoples, such evidences of physical deficiency are humiliating.

While the author deals, in the first part of this book, with concrete diseases, like cancer, tuberculosis, venereal diseases, then the constitutional diseases of middle life, and later those that bring about "old age" and that unduly shorten the span of life of many of our citizens who should live longer—in the second part, the lesson drawn from an investigation of mental degeneracy, from increasing mental and nervous disorders is even more of national importance. The author claims justly that, in the last instance, the only salvation from the danger threatening us in this respect lies in suitable restriction of the unfit, in so far as they are prevented from propagating their kind. If this interferes with a mistaken interpretation of the doctrine of personal liberty, it is pointed out that the interests of the individual are much less important to Nature than the interests of the race.

The author is of the opinion that the scientific energies of human society are unduly consumed with the betterment of the individual, that corrective movements should deal with the larger aspects of race improvement. It might be objected to this that the race is made up of individuals and that benefit to the whole can come only through benefiting the parts. That, undoubtedly, is true. Yet, it must be admitted that, in dealing with the individual, the ultimate effect upon society, upon the nation, upon the race, may never be lost sight of.

We quite agree with the author when he claims that the truest patriotism, the highest citizenship demands an honest willingness to learn the truth, sincerely to examine the facts and then fearlessly and bravely face the issue, grapple with the difficulties and by perseverance and common sense seek scientifically and thoroughly to overcome any handicap which the errors of the past and the mistakes of former generations may have placed upon the people of the present day.

We shall look forward with great interest to the further volumes of this series, that the author has promised. The preachments contained in the present volume are impressive and carry their much-needed lesson.

## STOUT: "THE EIGHTEENTH AMENDMENT"

The Eighteenth Amendment and the Part Played by Organized Medicine. By Charles Taber Stout. New York: Mitchell Kennerley. 1921 Price $1.50.

This book purports to prove that the Eighteenth Amendment is fundamentally wrong, since alcohol is a physiological necessity. It is also asserted that organized medicine, that is to say, The American Medical Association, was largely instrumental in bringing about national prohibition, for ulterior purposes of its own. The last-named claim can hardly be successfully proved. The discussion anent prohibition is reviewed somewhat extensively in the editorial department of this issue of CLINICAL MEDICINE, on page 556.

## JENSEN: "MASSAGE AND EXERCISES COMBINED"

Mr. Albrecht Jensen, author of the book referred to in the title, informs us that the price of his book was reduced to $2.50, which is almost half of the original price.

This book was reviewed in the AMERICAN JOURNAL OF CLINICAL MEDICINE for January, 1921, on page 68.

We desire to direct the attention of our readers to this reduction in price which necessarily will make this useful little treatise all the more attractive.